



Natural Resources Commission

NSW Coastal Integrated Forestry Operations Approval Monitoring Program

# Annual progress report

## May 2021



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



Department of  
Primary Industries



Aboriginal  
Affairs



Forestry  
Corporation



Local Land  
Services



Planning,  
Industry &  
Environment



Australian  
National  
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### **Acknowledgement of Country**

The Natural Resources Commission acknowledges and pays respect to traditional owners and Aboriginal peoples. The Commission recognises and acknowledges that traditional owners have a deep cultural, social, environmental, spiritual and economic connection to their lands and waters. We value and respect their knowledge in natural resource management and the contributions of many generations, including Elders, to this understanding and connection.

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# 1 Introduction

The Coastal Integrated Forestry Operations Approval (Coastal IFOA) sets out the rules for native timber harvesting in New South Wales (NSW) coastal state forests and establishes environmental outcomes that must be achieved under the approval. In addition, the approval requires a program to monitor and ensure the ongoing effectiveness of the approval in achieving these outcomes.<sup>i</sup>

This monitoring program sits within the broader NSW Forest Monitoring and Improvement Program.<sup>ii</sup>

This is the first annual progress report on the Coastal IFOA monitoring program.

## 1.1 Steering Committee

The coastal IFOA requires the Natural Resources Commission (the Commission) to independently oversee the program with agencies and independent experts.<sup>iii</sup>

The Commission established the NSW Forest Monitoring Steering Committee (the committee) to oversee the design and implementation of the program. The committee includes NSW agencies with responsibilities for natural resource and environmental policy, regulation, and science, as well as agencies with a direct role in forest management.

The Commission has appointed five independent experts to the Committee to provide advice on biodiversity, forestry, soil and water, Aboriginal natural resource management and social sciences (**Box 1**).

### Box 1: NSW Forest Monitoring Steering Committee

NSW agencies include:

- Natural Resources Commission (Chair)
- Forestry Corporation of NSW
- Environment Protection Authority
- Planning, Industry and Environment
- Department of Primary Industries
- Aboriginal Affairs
- National Parks and Wildlife Service
- Local Land Services

Independent experts include:

- Professor Patrick Baker
- Professor Phillip Gibbons
- Associate Professor Jacki Schirmer
- Dr Peter Hairsine
- Mr Bhiemie Williamson

## 1.2 Wildfires

The 2019/20 wildfires burnt 4.8 million hectares of land in NSW, including state forests in the coastal IFOA region.<sup>iv</sup> As a result, forestry operations ceased in many areas since the fires. Forestry operations have continued in a limited fashion since early 2020<sup>v</sup> under *site specific operating conditions*. More recently, operations have commenced in state forests under the coastal IFOA without additional mitigations. Sites impacted by the wildfires will be monitored under the coastal IFOA monitoring program (**Section 3.1**).

## 2 Progress to date

PROGRESS DASHBOARD	
Effectiveness monitoring	
▪ Monitoring plans	▪ <b>Completed</b>
▪ Literature reviews and fieldwork pilots	▪ <b>Commenced</b>
▪ Monitoring implementation	▪ <b>Commenced pilots and data capture</b>
Trend monitoring	
▪ Environmental values baselines and trends	▪ <b>Commenced</b>
▪ Wood supply baselines and trends	▪ <b>Commenced</b>
Reporting and Adaptive management	
▪ Annual forum	▪ <b>Completed</b>
▪ Annual report	▪ <b>Completed</b>
▪ Species management plan review	▪ <b>One plan completed. Others commenced</b>
▪ Annual health check	▪ <b>Q3 2021</b>

### 2.1 Monitoring plans

In March 2020, the Environment Protection Authority (EPA) and the Department of Primary Industries (DPI) jointly approved the Coastal IFOA monitoring program (the monitoring program) proposed by the committee. The program sets out the broad framework to evaluate the effectiveness of priority conditions in meeting the Coastal IFOA objectives and outcomes. It centres on strategies to monitor and research forest health, biodiversity, water quality and wood supply.

The program was designed by an agency technical working group (the technical working group) including representatives from the Forestry Corporation for NSW, NSW Environment Protection Authority, NSW Department of Primary Industries and NSW Department of Energy and Environment.

During the design phase, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) led a risk-based approach to ensure the monitoring program focused on priority areas and would be cost-effective. Community organisations and industry representatives were consulted in the design of the monitoring program through regional workshops and a public submissions process.<sup>vi</sup>

Following approval of the program, the committee tasked the technical working group to design detailed plans for each of the strategies. The committee endorsed plans in October 2020 (**Box 2**). The plans outline the scientific methods to deliver reliable results, when results are expected to be delivered and who is responsible for delivery.

The monitoring program and plans can found at <https://www.nrc.nsw.gov.au/ifoamer>

## Box 2: Coastal IFOA monitoring strategies

### Forest health

- **Monitoring forest structure, health and regeneration** – including two streams of monitoring of forest landscape protections: operational and validation monitoring
- **Monitoring key habitat features** – to investigate whether there are sufficient habitat features, in an appropriate configuration to ensure key fauna species; and whether there are sufficient resources under the conditions to support the ongoing viability of species
- **Monitoring landscape-scale trends in environmental values** – to monitor the effectiveness of the Coastal IFOA conditions at a landscape scale through indicator metrics for biodiversity, forest regeneration and water quality

### Biodiversity

- **Monitoring species occupancy** – to monitor trends across landscapes and regions for focal fauna species using occupancy modelling, including through field-based monitoring
- **Monitoring specific fauna species** – to monitor fauna species under the Coastal IFOA's Species Management Plans (under Protocol 21), including the southern brown bandicoot, giant burrowing frog, yellow-bellied glider, eastern bristle bird, and the smoky mouse
- **Monitoring specific flora species** – to monitor flora species under the Coastal IFOA's Species Management Plans being prepared for seven focal flora species (under Protocol 21), with two completed and another five currently being drafted

### Water quality and aquatic habitat

- **Monitoring water quality and wetland health** – to monitor whether the Coastal IFOA's conditions and protocols are effective in minimising the potential impacts of harvesting, roads, tracks and crossings on waterway and wetland health

### Wood supply

- **Monitoring baselines and trends in wood supply** – to monitor the trend in actual harvest volumes and wood supply through modelling, which will indicate whether the Coastal IFOA conditions are affecting wood supply over time.

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## 2.2 Baselines and indicators

The coastal IFOA program requires the program to establish scientifically valid environmental and wood supply baselines to evaluate the effectiveness or impacts of the approval on the maintenance of environmental value and on wood supply.<sup>vii</sup> In addition, the program must monitor trends for forest regeneration, biodiversity and water quality at the landscape scale.<sup>viii</sup>

The program is now drawing on extensive state and national datasets to assemble cross-tenure baselines and trends in the coastal IFOA regions for forest extent and health, water quality and quantity and flora and fauna. The work is also delivering a suite of indicators and operation methods to monitor landscape trends.

For example, the program has engaged a consortium of leading scientists to establish baselines and trends for forest extent, condition and health. This will be NSW's first authoritative baseline dataset that will support performance reporting for the coastal IFOA and cross-tenure Regional Forest Agreements.

These baselines will address previous community concerns about the lack of transparent information to assess forest health and performance. All data will be made available to the community via the NSW SEED data portal.

The program is also establishing baselines for predicting and monitoring wood supply. To establish the baselines, the program is first evaluating trends in historic and actual wood production from 2003 to 2019 and the various factors influencing trends over time. The program will predict wood supply under two scenarios: conditions in the previous IFOAs, and under new conditions in the Coastal IFOA.

## 2.3 Research and evaluation

Targeted research and evaluations will address priority issues and risks identified in the Coastal IFOA, under the broader monitoring program. This will enable the program to respond to changes in environmental conditions, policy, knowledge or technology, as well as investigating best practice in forest management and monitoring.

For example:

- The University of Wollongong are evaluating the risk to achieving coastal IFOA outcomes due to changing fire regimes. The work will evaluate the specific risks to achieving the Coastal IFOA objectives and outcomes as result of the landscape scale impacts of the NSW 2019/20 wildfire season.
- The Australian National University is designing a hollow simulation model to predict the number of trees with hollows perpetuated under the current Coastal IFOA conditions. The model will help determine the effectiveness of the conditions and protocols of the Coastal IFOA at maintaining habitat resources over the long-term. Advice from the Southern Cross University on managing and monitoring hollow bearing trees will support this work.
- The Department of Planning, Industry and Environment in collaboration with the FCNSW will investigate how technology – such as drones – can improve the probability of detecting fauna habitat where forest operations occur in state forests.
- Alluvium and the NSW Soil Conservation Services are assessing the effectiveness of the forest road network to protect water quality and aquatic habitat on public land including roads used for forestry operations in state forests.

More information on research and evaluation can be found at <https://www.nrc.nsw.gov.au/ifoamer-research>

In a separate program, researchers at the Australian National University, Western Sydney University and the Forest Science Unit at the NSW Department of Primary Industries are investigating how koalas, and their habitat are responding to harvesting in state forests on the NSW North Coast. This will inform the effectiveness of conditions to protect koalas under the IFOA monitoring program. This research work is overseen by the Commission and funded under the NSW Koala Strategy. More information on this program can be found at <https://www.nrc.nsw.gov.au/koala-research>

## 2.4 Program partners

The program is now working with leading scientists and researchers from universities, NSW agencies and the private sector to oversee and deliver projects for the program. The independent experts from the committee regularly reviewed draft monitoring plans to ensure they are scientifically valid and advised technical working group on improvements.

Delivery partners include:

- the University of New England, Macquarie University and the NSW Department of Primary Industries Forest Science Unit are leading a team of over 15 scientists, including scientific staff from the NSW Department of Planning, Industry and the Environment to develop baselines for fauna across the IFOA region



- Spatial Vision and the NSW Department of Primary Industries Forest Science Unit are leading a consortium including RMIT University, University of New England, PF Olsen, University of NSW, NSW Forestry Corporation and the Department of Planning, Industry and Environment to deliver baselines, drivers and trends for forest extent and health across all tenures in the IFOA region including areas where historical forestry operations have occurred

The program continues to engage leading scientific minds and thinking as the program is delivered. A full overview of the program partners and projects can be found at <https://www.nrc.nsw.gov.au/ifoamer>

## 2.5 Species management plans

The committee oversees annual reviews of species management plans under the program. The Commission, as independent chair of the committee is required to advise the NSW Environment Protection Authority (EPA) on opportunities to improve the plans. This occurs after the steering committee has considered findings of the review.

A cross-agency technical team has reviewed the Yellow-Bellied Glider species management plan. The review team included staff from EPA, Forestry Corporation of NSW the NSW Department of Primary Industries and the Commission. Professor Phillip Gibbons from the steering committee advised the group.

Based on findings from the review, the Commission advised the EPA on ways to improve the plan including using latest technology to ensure scientifically robust results. The Commission also suggested FCNSW continue the current occupancy modelling over the next 2-3 years to assess population trends, impacts and recovery after the 2019/20 wildfire.

The committee will continue to oversee annual reviews of species management plans including:

- Southern brown bandicoot – Eden management zone.
- Smoky mouse – Eden management zone.
- Giant burrowing frog – Eden management zone.

## 2.6 Community forums

The program is committed to transparent and accessible information about the program. A key step to achieve this is to host annual community forums to share updates and emerging results from the program.

The steering committee hosted its second annual forum in November 2020, via webinar. The forum updated the community on the program, including the detailed monitoring plans in place for forest health, biodiversity, water quality and wood supply.

Over twenty people joined the forum including stakeholders from industry, universities and environmental groups. Stakeholders appreciated the update and are looking for more tailored forums and opportunities to engage on emerging findings in the future. Stakeholders were most interested in biodiversity issues.

The webinar and a set of questions and answers are available on the Commission's website at <https://www.nrc.nsw.gov.au/ifoamer-reporting>



## **3 Priority next steps**

### **3.1 Monitoring fire-affected sites**

The EPA have issued supplementary site-specific operating conditions to FCNSW for forestry operations in areas impacted by the 2019/20 wildfires.<sup>ix</sup> The conditions are applied in addition to, or instead of the prescriptions set out in the Coastal IFOA and are issued on a case by case basis.

Under the conditions, the EPA have requested FCNSW work with the Commission to monitor the long-term impacts and recovery at sites where site-specific operating conditions are issued as part of the IFOA monitoring program.<sup>x</sup>

A monitoring plan is [now in place](#), developed by a cross-agency technical working group team and endorsed by the committee. As an early step, the program will stocktake data collected at sites since the wildfires. For example, data collected during fauna and flora surveys by FCNSW. Forest monitoring plots will be established including capturing LIDAR (Light Detection and Ranging) data to monitor forest structure over time.

### **3.2 Forest and fauna monitoring**

The broader NSW Forest Monitoring and Improvement program has committed to design and implement a cross tenure forest monitoring plot network linked to remote sensing. State forests within the coastal IFOA will be sampled as part of this wider plot network. This network will be the centrepiece of a broader modelling and forecasting framework drawing on historical data, field verified data, remote-sensed data and existing modelling for climate change predictions.

The Commission is now working with agencies and other experts to pilot the approach, including ensuring a statistically valid design, and repurposing and extending existing networks of permanent forest plots. This approach will be rolled-out in state forests in the first quarter of 2021 to meet coastal IFOA monitoring commitments, expanding across tenures in the area covered by Regional Forest Agreements by end-2022.

In addition, the Commission is working with FCNSW and the National Parks and Wildlife Service to pilot a cross-tenure fauna monitoring program on state forests and national parks. The proposal aims to build on, and pair with existing Wildcount sites on national parks using remote sensing equipment to detect fauna such as cameras, songmeters and echometers.

### **3.3 Annual health check**

Under the Coastal IFOA, the steering Committee must undertake an annual 'health check' and provide a report to the EPA and DPI.<sup>xi</sup> The annual health check will be designed to consider the results of the monitoring program and identify key insights and implications based on the monitoring data. This process will guide recommendations on how the Coastal IFOA could better meet its objectives and outcomes. The first annual health check will occur the second half of 2021.

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- i Coastal IFOA – Chapter 8 of the condition and Protocol 38
- ii Overseen by the NSW Forest Monitoring Steering Committee, chaired by the Commission.
- iii Coastal IFOA conditions – condition 122.1 and Coastal IFOA protocols – protocol 38. A Premier’s terms of reference gives effect to the Commission’s role.
- iv Based on latest statistics from DPIE’s fire extent and severity mapping (DPIE (2020) *Supporting fire management with the Fire Extent and Severity Maps*. Available at: <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Parks-reserves-and-protected-areas/Fire/fire-extent-and-severity-mapping-fact-sheet-200068.pdf>).
- v Prior to the EPA and DPI jointly approving the coastal IFOA monitoring plan.
- vi Submissions are published on the Commission’s website: [www.nrc.nsw.gov.au/ifo-mer](http://www.nrc.nsw.gov.au/ifo-mer)
- vii Coastal IFOA – protocol 38 cl 38.3 (1)(b)
- viii Coastal IFOA – protocol 38 cl 38.3 (1)(c)
- ix Coastal IFOA - condition 23.4
- x See for example, condition 66 in site-specific operating conditions for Bagawa state forest compartment BGW028 <https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/forestagreements/bagawa-site-operating-conditions.pdf>
- xi Coastal IFOA – protocol 38 cl 38.4 (1)(a)