

Submission on the Draft Forest Management Plan (Softwood Plantations and Coastal Hardwood Forests)

30 June 2022

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Submitted to:

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Introduction

- EDO welcomes the opportunity to comment on Forestry Corporation New South Wales' (FCNSW) draft Forest Management Plan - Softwood Plantations and Coastal Hardwood Forests for July 2022 to June 2027 (Draft FMP).¹
- This submission is confined to commenting on the Draft FMP generally, and in so far as it applies to native state hardwood forests governed by the Coastal Integrated Forestry Operation Approval (CIFOA), (State Forests). It does not address the application of the Draft FMP to Softwood or Hardwood Plantations in any detail.
- 3. We understand that the Draft FMP is proposed to replace FCNSW's Forestry Management Plans for Softwood Plantations and Coastal Hardwood Forests, which were finalised in 2016. Since those Management Plans were developed, significant events have occurred from both a regulatory and environmental perspective,² including through the introduction of the CIFOA, the renewal of the NSW RFAs, the 2019/20 bushfires and recent 2022 flooding events.
- 4. Our interest in the Draft FMP is to ensure that FCNSW's forestry management plans are:
 - a. consistent with FCNSW's obligations under the applicable NSW State forestry framework, broadly comprising the NSW Regional Forest Agreements (NSW RFAs), *Forestry Act 2012* (NSW) (Forestry Act), *Forestry Regulation 2012* (NSW) (Forestry Regulation) and the CIFOA, (collectively referred to as Forestry Framework in these submissions);
 - b. consistent with the principles of ecologically sustainable forest management (ESFM Principles)³ and provide an ecologically sustainable forest management strategy (ESFM Strategy);
 - c. responsive to regulatory and environmental changes; and
 - d. consistent with FCNSW's obligations as a statutory state owned corporation (**SOC**).
- 5. In summary, we submit that the Draft FMP is inadequate because it fails to comply with the basic requirements of the Forestry Framework. Specifically, we are concerned that the Draft FMP fails to:
 - a. properly identify and apply the ESFM Principles (**Key Issue 1**);
 - b. meet the requirements of a FMP, namely to provide an ESFM strategy (**Key Issue 2**); and
 - c. identify and integrate relevant climate risks and adaptation responses into the monitoring, evaluation and reporting requirements of the FMP (**Key Issue 3**).
- 6. The ESFM Principles sit at the core of the Forestry Framework.⁴ As such, the legitimacy of harvesting operations, in particular in State Forests, is premised on the proper application of

¹To the extent possible, and unless otherwise specified, we have adopted the definitions in the Draft FMP in this submission. ²See Part 1.1.5, 'Significant events since previous plan', of the Draft FMP.

³ We have adopted the defined term "ESFM Principles" throughout this submission. ESFM Principles is defined at paragraph 13. ⁴Forestry Act 2012 (NSW), (**Forestry Act**), s69L(1)(a); See also <u>CIFOA Conditions</u> at cl 14.1(a).

those principles. Our conclusion, that the Draft FMP fails to both properly identify and address the ESFM Principles and provide an ESFM Strategy, is highly concerning. The Draft FMP fails to meet the basic regulatory requirements of an FMP because it does not provide an ESFM Strategy. This is unacceptable.

7. Further, having regard to the significant climate risks posed to State Forests, it is deeply concerning that the Draft FMP fails to identify any ESFM Strategy to respond to those risks. FCNSW need not look any further than the 2019/20 bushfires to comprehend the types of economic, social and environmental issues that it may face carrying out forestry operations in State Forests in a future with increasingly severe and extreme weather events affecting those forests. Indeed, while FCNSW transitioned away from harvesting in State Forests to Hardwood Plantations following the 2019/20 bushfires, the Draft FMP does not contain any similar ESFM strategies or commitments to anticipate or respond to future extreme weather events.

Summary of Recommendations

9. Our recommendations can be summarised as follows:

Recommendation 1	The FMP must expressly identify and apply all ESFM Principles.
Recommendation 2	The FMP should identify gaps between the existing Forestry Framework and the ESFM Principles, taking into account the findings in the Smith Report and NRC Report that ESFM cannot be achieved under the current CIFOA.
Recommendation 3	The FMP should include an analysis of recent developments, such as regulatory and environmental changes to State Forests, and any impact they may have on FCNSW's ability to conduct its forestry operations in accordance with the ESFM Principles.
Recommendation 4	The FMP, through the ESFM Strategy, should, to the greatest extent possible, identify actions for overcoming any gaps in the existing Forestry Framework or challenges resulting from recent developments so that it can effectively implement ESFM Principles.
Recommendation 5	The FMP should include specific, measurable objectives and targets, such as Specific, Measurable, Achievable, Relevant and Time Bound targets (SMART Targets), relevant to achieving the ESFM Principles.
Recommendation 6	The FMP must include an adaptive management framework, which includes ongoing monitoring and measurable objectives and targets to ensure FCNSW is effectively delivering its ESFM Strategy.
Recommendation 7	The FMP should incorporate regular review processes, such as independent audits, to review the veracity and efficacy of FCNSW's ESFM strategies and the assessments underpinning those strategies.
Recommendation 8	The FMP must identify and integrate relevant climate risks and adaptation responses into the monitoring, evaluation and reporting requirements of the FMP and outcome statements.

Forest Management Plan Requirements

- 10. The Forestry Regulation expressly requires that a FMP contain the ESFM Strategy to be adopted by FCNSW in relation to the State forest to which the plan applies.⁵⁻
- 11. ESFM is a defined term in the Forestry Act that applies to forestry operations conducted in State Forests.⁶
- 12. A general objective of the CIFOA is, consistent with the Forestry Act, to authorise the carrying out of forestry operations in accordance with the principles of ESFM. The CIFOA adopts the definition of ESFM from the Forestry Act and the NSW RFAs.⁷ The definition of ESFM under the NSW RFAs supplements the statutory definition under the Forestry Act and provides a greater level of detail in relation to what each principle of ESFM requires. We extract the definition of ESFM in the Forestry Act and NSW RFAs at **Appendix A**.
- 13. An FMP for FCNSW's forestry operations in State Forests should, therefore, provide an ESFM Strategy that is responsive to the definition of ESFM provided for in both the Forestry Act and NSW RFAs, (collectively **ESFM Principles**).
- 14. The term 'ESFM strategy,' however, is not defined and there is little guidance within the Forestry Act or Forestry Regulation as to what would constitute an appropriate 'ESFM strategy' for the purpose of cl 51 of the Forestry Regulation.
- 15. Given the lack of definition, the obligation to provide an ESFM Strategy should be understood according to its plain meaning: namely, the FMP should express how FCNSW plans, over a period of time, to apply and achieve the ESFM Principles. At the least, the FMP must contain a plan of action that is responsive to the ESFM Principles.
- 16. The NSW Government is required to comply with the requirements of the NSW RFAs. The NSW RFAs expressly identify what should be included in an FMP, and therefore provide further context to the specific requirements for FMPs. To that end, the NSW RFAs state that:

"New South Wales will implement, adapt and improve its Forest Management Framework across forest management agencies by:

...

⁷See CIFOA Protocol, which defines "*Principles of Ecologically Sustainable Forest Management*" at Protocol 39 as "*As described in part 5B of the Forestry Act 2012 (and the NSW Regional Forest Agreements for Eden, Southern and North East).*"

⁵ Forestry Regulation, c51; See also Forestry Act, Part 3, Division 3 and Draft FMP at Table 1.2.

⁶ Forestry Act, s69L(2); See Appendix A.

Maintaining a [FMP],⁸ or equivalent instrument, which includes the ESFM strategy for the [relevant] region consistent with any Integrated Forestry Operations Approval, and statutory requirements, and including:

- *i.* Specification and description of the range of values and processes to be managed, including objectives and targets of management;
- *ii.* Descriptions of and links to Regulatory Instruments, standard operating procedures and guides or manuals;
- *iii.* Determination of Sustainable Yield;
- *iv.* Ongoing arrangements for monitoring activities specified in the plan and reporting against plan objectives and targets;
- v. Process for regular reviews of the plan involving public consultation.9"
- 17. The NSW RFAs also state that:
 - a. NSW undertakes to identify and integrate relevant climate risks and adaptation responses into the monitoring, evaluation and reporting requirements in FMPs;¹⁰ and
 - b. FCNSW's Hardwood Forest Management System,¹¹ including the FMP, the plan of operations and harvesting plans, will be the mechanism for implementing the terms of the IFOA.¹²

Key Issues

Key Issue 1: The Draft FMP fails to correctly identify or apply the ESFM Principles

- 18. The Draft FMP does not correctly identify or apply the ESFM Principles that apply to State Forests. As identified at paragraphs 11 to 13 above, the relevant ESFM Principles are contained in the Forestry Act and the NSW RFAs.¹³
- 19. Rather than identify the ESFM Principles that apply to State Forests, the Draft FMP:
 - a. conflates ESFM with "sustainable forest management principles." For example, under the heading "Ecologically Sustainable Forest Management,"¹⁴ FCNSW appears to refer to the definition of Ecologically Sustainable Development provided for in the National Forest

⁸ The RFAs use the term "Regional ESFM Plan" instead of FMPs, which is defined as a plan covering State forests in the region that has a status of a management plan under the Forestry Act 2012 (NSW) and meeting additional requirements under the Forestry Regulation 2012 (NSW), (See Eden RFA at clause 2; Southern RFA at clause 2; North East RFA, clause 2).

⁹ Eden RFA, Attachment 7, clause 11; Southern RFA, Attachment 8, clause 2(p) (page 142 of PDF); North East RFA, Attachment 8, clause 1(k).

¹⁰ See Eden RFA, clause 46(i) (page 35 of PDF); Southern RFA, clause 47(i); North East RFA, clause 48(i).

¹¹ The NSW RFAs define FCNSW Hardwood Forest Management System as the system of policies, processes and procedures used by FNCSW to ensure forest activities achieve ESFM, including a system of monitoring, audit and management review that allows for continual improvement and adaptive management and maintaining environmental management system certification under ISO 14001 or a demonstrated equivalent of environmental management system, (See Eden RFA at clause 2; Southern RFA at clause 2; North East RFA, clause 2).

 ¹² Southern RFA, Attachment 8 clause 1; Eden RFA, Attachment 7, clause 16 (page 98 of PDF); North East RFA, Attachment 8, clause 3.
 ¹³ See the ESFM Principles at **Appendix A** to this submission.

¹⁴ See Draft FMP at part 1.2; See also Draft FMP at page 9 of 81, which refers to "the principles of sustainable forest management."

Policy Statement (**NFPS**),¹⁵ which is only one element of ESFM,¹⁶ and states that the sustainability of its business is founded on "sustainable forest management principles." No reference is made to the ESFM Principles, as defined in the NSW RFAs and Forestry Act;

- b. refers to the Montreal Process Criteria,¹⁷ as "ESFM criteria;"¹⁸
- c. refers to the requirements of the Australian Standard for Sustainable Forest Management (AS4708:2013) (**AS4708**).¹⁹ However, AS4708, an industry certification that can be applied on a voluntary basis, is entirely different to FCNSW's obligations under the Forestry Framework as a SOC and does not demonstrate that FCNSW is carrying out its forestry operations in accordance with the ESFM Principles.
- 20. Where the Draft FMP refers to elements of ESFM Principles, these references are incomplete and inadequate. For example, Part 3 of the Draft FMP specifically deals with FCNSW's operations in State Forests. Table 7.1 of the Draft FMP is described as summarising FCNSW's "Hardwood Forests ESFM Outcomes". None of the ESFM Principles are expressly referred to in Table 7.1. Instead, Table 7.1 provides, at best, a cursory reference to some of the ESFM Principles. For example, Table 7.1 provides the objective, under "Our Environment," to "*Maintain the full suite of environment and heritage values across the forested landscape*."²⁰ This "Objective" is an oversimplification and mischaracterisation of the ESFM Principle to "*Maintain or increase the full suite of forest values for present and future generations across the NSW native forest estate*" and the eight separate forest values detailed in the NSW RFAs. Some of the forest values which fall within Principle 1 of ESFM²¹ are then listed as "actions."²² Despite the requirement that an FMP must contain an ESFM Strategy,²³ Table 7.1 in no way meaningfully addresses all, or in fact any, of the ESFM Principles.
- 21. It is of particular concern that the Draft FMP contains almost identical ESFM Management Outcomes to the previous "Forest Management Plan for the Coastal Forests of NSW,"²⁴ in circumstances where the landscape in which FCNSW is now operating and the State Forests' forest values, post the 2019/20 bushfires, are entirely different to when the previous FMP was drafted.

²² See for example "maintain productive capacity of the forest estate" and Principle 1, Aims for values "B. The Productive Capacity and sustainability of forest ecosystems."

¹⁵ See the definition for Ecologically Sustainable Forest Management in the National Forest Policy Statement, second edition, dated 1995, Glossary, page i.

¹⁶ See Annexure A, the definition of ESFM under the NSW RFAs is provided at page 5 of the NSW RFAs.

¹⁷ See, for example, Eden RFA, Attachment 8.

 $^{^{\}rm 18}$ See the Draft FMP at page 14 of 81.

¹⁹ See Draft FMP, table 1-2 (page 11 of 81); See also Draft FMP, "1.1.4 The Forest Management Plan" at page 9 of 81 and "2.1.6 Independent forest management certification" at page 19 of 81.

²⁰ See analysis in Appendix B, at no 1.

²¹ Principle 1 of the NSW RFAs is outlined the Eden RFAs and North East RFA at Attachment 14 and the Southern RFA at Attachment 13.

²³ See paragraph 10 above.

²⁴ Forestry Corporation, <u>Forest Management Plan for the Coastal Forests of NSW</u>, page 8.

- 22. **Appendix B** outlines where ESFM Principles are referenced in the Draft FMP, the extent to which ESFM Principles have been omitted, or incompletely / inadequately identified, and the effect of the omission on the Draft FMP in relation to State Forests.
- 23. In summary, as a result of the Draft FMP's failure to adequately identify the ESFM Principles, the Draft FMP cannot properly apply, or be responsive to, them. For example, the Draft FMP cannot:
 - a. Adequately specify and describe the range of values and processes within the State Forests that need to be managed to meet the ESFM Principles;
 - b. Set objectives and targets of management that support the ESFM Principles; or
 - c. Plan ongoing arrangements for monitoring activities specified in the FMP and reporting against plan objectives and targets that meet ESFM Principles.

Recommendation 1: The FMP must expressly identify and apply all ESFM Principles.

- 24. The Draft FMP seeks to rely on the current Forestry Framework to demonstrate that FCNSW's forestry operations are conducted in accordance with ESFM Principles.²⁵
- 25. We submit FCNSW's reliance on the current Forestry Framework is misplaced. Even where FCNSW can demonstrate that it complies with the current Forestry Framework, this does not indicate that FCNSW has, or is able to, comply with the ESFM Principles.²⁶
- 26. The CIFOA provides FCNSW with the power to alert the EPA to the fact that the CIFOA is not achieving the ESFM Principles and to seek changes to the CIFOA conditions, or its operating conditions, to ensure that it complies with the ESFM Principles prior to conducting forestry operations, as follows:
 - a. At condition 23.1, FCNSW can request that the EPA review a condition, objective or outcome of the CIFOA by written submission where, for example, in FCNSW's opinion:
 - i. a condition, objective or outcome is not being consistently achieved when implementing the CIFOA; or
 - ii. new information, or an alternative method, procedure, technique or approach to a condition would achieve an improved outcome; and

²⁵ See, for example, Draft FMP at page 62 to 65, where FCNSW refers to "conducting a range of pre-operational targeted flora and fauna surveys." and the FRAMES model.

²⁶ See, for example, Dr Andrew P Smith's report, "Review of CIFOA Mitigation Conditions for Timber Harvesting In Burnt Landscapes," dated 17 September 2020 (**Smith Report**), where at page 24 it states, "*FCNSW has failed to demonstrate and is unable to conclude, that normal CIFOA timber harvesting practices will not have a significant impact on biodiversity in burnt areas. Under these circumstances it would be appropriate to apply new highly precautionary measures to limit harvesting extent and intensity in burnt areas to prevent environmental harm and limit the risk of serious or irreversible damage to threatened species and biodiversity.*"

- b. At condition 23.4, FCNSW can seek the implementation of Site Specific Operating Conditions (SSOCs) prior to the commencement of forestry operations where FCNSW forms the view that applying a condition of the CIFOA, or a specific site would result in a poor environmental outcome, or if in a specific and unique circumstance FCNSW would not be able to comply with the conditions of the CIFOA.
- 27. The EPA does not appear to have the same power to initiate the negotiation of SSOCs.
- 28. The ESFM Principles are patently central to the Forestry Framework, as is the legitimacy of harvesting operations being premised on the proper application of those principles. As such, FCNSW should continually assess, in accordance with its powers to do so, whether its forestry operations comply with the ESFM Principles when conducted in accordance with the CIFOA, or whether it should be seeking a review of an element of the CIFOA or the implementation of SSOCs.
- 29. Following the 2019/20 bushfires, it is particularly important that the FMP considers the efficacy of the Forestry Framework in achieving the ESFM Principles. Only where FCNSW can demonstrate that the Forestry Framework achieves the ESFM Principles, can it then seek to rely on the framework in any FMP as a means to satisfy the ESFM Principles. However, for the reasons outlined below, we submit that the existing Forestry Framework does not support the ESFM Principles and FCNSW must develop an ESFM Strategy that addresses the gaps within the Forestry Framework.
- 30. The Draft FMP, or any associated material, does not:
 - a. analyse the effectiveness of the current Forestry Framework in enabling FCNSW to achieve the ESFM Principles. The Draft FMP appears to solely rely on the current Forestry Framework as its ESFM Strategy. This does not, however, demonstrate that FCNSW's operations are compliant with the ESFM Principles.²⁷ In an independent report commissioned by the EPA following the 2019/20 bushfires, "*Review of CIFOA Mitigation Conditions for Timber Harvesting In Burnt Landscapes*," dated 17 September 2020 (Smith Report), Dr Smith expressly provides that the standard conditions of the CIFOA fail to guarantee ESFM, and are likely to cause an ongoing decline and significant impact on biodiversity.²⁸ The EPA also wrote to FCNSW in a letter dated 22 September 2020 stating that:

"It is the view of the EPA that the unprecedented fires of 2019/20 have significantly impacted the environmental values of the state forests of coastal NSW. Subsequent timber harvesting in areas impacted by fire pose a major environmental risk to the

²⁷See, for example, the Smith Report at page 8, which states that, "[*P*]articularly in the context of the 2019/20 wildfires, the standard conditions (CIFOA 2018) fail to guarantee ecologically sustainable forest management and are likely to cause an ongoing decline and significant impact on biodiversity, inconsistent with the requirements of the Environment Protection and Biodiversity Conservation Act 1999 and the NSW Forestry Act 2012."

²⁸ Smith Report, page 8.

extent that ecologically sustainable forest management (ESFM), as required under the NSW Forestry Act 2012, is unlikely to be achievable under a business-as-usual approach."²⁹

- analyse the impact of the regulatory and environmental changes on the State Forests and FCNSW's ability to conduct its forestry operations in accordance with requirements of IFOAs and ESFM Principles. The Draft FMP does not, for example, state:
 - i. that the NSW Natural Resources Commission (**NRC**) formed the view that the CIFOA "was not designed to mitigate the risks of harvesting in severely fire-affected landscapes like those from the 2019/20 wildfires;"³⁰
 - ii. how the 2019/20 wildfires have impacted the full suite of forest values for present and future generations across the native hardwood forest estate;
 - iii. the extent to which the SSOCs agreed to between FCNSW and the EPA enabled the recovery of the State Forests following the 2019/20 bushfires;
 - iv. whether FCNSW's additional voluntary measures adopted following the 2019/20 bushfires enabled FCNSW to achieve ESFM Principles; or
 - v. whether FCNSW will continue to adopt additional voluntary measures to support the recovery of the State Forests and forest values following the 2019/20 bushfires, and the basis upon which these measures have been and will be developed;
- c. provide a comprehensive overview of recent developments. For example, the Draft FMP does not refer to:
 - any intention to adapt the FMP to incorporate any relevant findings from the current NSW Parliamentary inquiry into long term sustainability and future of the timber and forest products industry, community sentiment into its ESFM Strategy;
 - ii. the development of SSOCs following the 2019/20 bushfires and FCNSW's decision to not proceed with further SSOCs following their expiry;
 - the reports commissioned by the EPA and NSW Government to consider the effectiveness of the CIFOA in meeting ESFM Principles following the 2019/20 bushfires, namely the Smith Report and the NRC report "Coastal IFOA operations post 2019/20 wildfires," dated June 2021, (NRC Report);
 - iv. the impact of the recent, extreme flooding events that occurred throughout NSW and QLD in 2022 and the relevant impact on FCNSW's ability to achieve the ESFM Principles;³¹ or

³⁰ NRC Report, page 1; see also NSW EPA, "Bushfire-affected forestry operations" (page last updated 14 July 2021) at <<u>https://www.epa.nsw.gov.au/your-environment/native-forestry/bushfire-affected-forestry-operations</u>>.

²⁹ Letter from EPA to FCNSW dated 22 September 2020.

³¹ See, for example, ABC News, *Hundreds of dead animals as rescue services struggle with volume of call-outs and impact of floods*, 4 March 2022, available at <u>https://www.abc.net.au/news/2022-03-04/animals-stranded-drowning-floods-rspca-rescue/100880008</u>; see also Australian Geographic, Euan Ritchie, Deakin University and Chris J Jolly, Macquarie University, *What are the effects on wildlife during flooding and how can you help?*, 8 March 2022, available at

https://www.australiangeographic.com.au/topics/wildlife/2022/03/what-are-the-effects-on-wildlife-during-flooding-and-how-can-youhelp/; See also New South Wales Government, 'Boost for North Coast Forest roads', 3 June 2022, available at

- d. provide any strategy for overcoming any gaps in the Forestry Framework so that FCNSW can comply with the ESFM Principles. For example, both the Smith Report and NRC Report outline urgent interim measures that FCNSW must adopt to ensure ESFM Principles following the 2019/20 bushfires.³² The Smith Report states that recovery of threatened and sensitive species in the State forests could take between 10 to 120 years.³³ The Smith Report also expressly states that unless additional and revised landscape conditions are devised, or key recommendations in the Smith Report are applied, it is unlikely that proposed harvesting in burnt forests will meet the requirements of ESFM, or adequately address the precautionary principle as necessitated by the absence of postwildfire and long term post-harvest monitoring data on biodiversity.³⁴ None of the recommendations referred to in the Smith Report or NRC Report appear to be incorporated into the Draft FMP, despite the recommendations appearing to be consistent with the general objective of the CIFOA that forestry operations be conducted in accordance with the ESFM Principles, and FCNSW's powers to seek SSOCs where it forms the view that the CIFOA would result in a poor environmental outcome. The Draft FMP also fails to identify any additional measures that it will adopt during the critical period for species recovery, or how those measures will be developed and implemented in accordance with the ESFM Principles. We outline examples of the gaps in the Forestry Framework identified in the Smith Report and NRC Report in Appendix C to this submission.
- 31. For the reasons outlined above, the Draft FMP does not provide a satisfactory ESFM Strategy for implementing the ESFM Principles. At present, the Smith Report and NRC Report suggest that FCNSW forestry practices are breaching the ESFM Principles.
- 32. FCNSW's Draft FMP cannot demonstrate that it is meeting the requirements of the ESFM Principles by merely relying on the existing Forestry Framework. Rather, FCNSW must analyse the efficacy of the existing Forestry Framework and the impacts of the recent 2019/20 bushfires on its ability to conduct forestry operations in accordance with ESFM Principles. Once FCNSW has conducted this analysis, it should be better placed to develop an adaptive and responsive ESFM Strategy that responds to risks to the ESFM Principles.
- 33. One way in which the FMP could seek to effectively identify and apply the ESFM Principles is to include a table or matrix that clearly identifies and addresses each ESFM Principle.

<<u>https://www.nsw.gov.au/media-releases/north-coast-roads-floods>;</u> ABC News, 'NSW government announces subsidy for waterlogged North Coast timber industry,' 24 May 2022, available at < <u>https://www.abc.net.au/news/2022-05-24/nsw-gov-subsidy-waterlogged-north-coast-timber-industry/101093710</u>>.

³² See Smith Report, page 25 and NRC Report, page 47ff.

 $^{^{\}rm 33}$ See NRC Report, page 95 and Smith Report page ii.

 $^{^{\}rm 34}$ Smith Report, pages 24 to 25; See also NRC Report at pages 117, 118, 120, 122 and 124.

Recommendation 2: The FMP should identify gaps between the Forestry Framework and the ESFM Principles, taking into account the findings in the Smith Report and NRC Report that ESFM cannot be achieved under the current CIFOA.

Recommendation 3: The FMP should include an analysis of recent developments, such as regulatory and environmental changes to State Forests, and any impact they may have on FCNSW's ability to conduct its forestry operations in accordance with the ESFM Principles.

Recommendation 4: The FMP, through the ESFM Strategy should, to the greatest extent possible, identify actions for overcoming any gaps in the existing Forestry Framework or challenges resulting from recent developments so that it can effectively implement the ESFM Principles.

Key Issue 2: The Draft FMP fails to adequately meet key elements of a FMP

34. We refer to the requirements of an FMP identified at paragraphs 10 to 17 above, which include the specific requirements of the NSW RFAs. We are concerned that the Draft FMP does not meet these specific elements. We have set out several examples that follow.

The Draft FMP does not contain any specific measurable targets or objectives to achieve ESFM

- 35. Where FCNSW provides examples of its own processes or procedures, it does not set any SMART Targets to ensure the implementation of ESFM Principles, or indicate how relevant processes or procedures will be used to implement ESFM Principles. For example, the Draft FMP:
 - a. Refers to 'Risk Management', 'Monitoring and auditing' and 'Management Review' but does not indicate how the processes relate to ESFM or assist with achieving ESFM;³⁵
 - b. Refers to the Forest Management System (FMS) as a system that, *inter alia*, ensures FCNSW achieves "sustainable forest management".³⁶ The Draft FMP also states that its Forest Management Policy outlines FCNSW's commitments to conserving and advancing a range of forest values such a as biodiversity, forest productivity and carbon sequestration in keeping with the principles of sustainable forest management. The Forest Management Policy is three pages long and outlines 13 objectives for forest management at a high level, such as FCNSW will "*implement a methodical, organised, and well-planned approach to forest management*". No specific ESFM indicators, targets or objectives are provided. The Draft FMP does not provide any processes or procedures for implementing the Forest Management Policy or FMS, or detail how the FMS achieves the ESFM Principles; and
 - c. States that FCNSW will "adhere to a system of adaptive management in planning, implementing and monitoring of harvesting to protect rare or threatened flora and fauna

³⁵ Draft FMP, pages 17 to 19.

³⁶ Draft FMP, page 9.

*and their habitats along with soils and water quality*³⁷ without providing any mechanisms for doing so, and despite criticisms in both the Smith Report and NRC Report that FCNSW is not achieving adaptive management.³⁸

<u>The Draft FMP does not contain any ongoing arrangements for monitoring activities and reporting</u> <u>against FMP objectives and targets or provide for adaptive management</u>

- 36. The NSW RFAs state that ESFM requires a long term commitment to continual improvement.³⁹ The Draft FMP fails to provide for any ongoing monitoring of FCNSW's compliance with the ESFM Principles or process for regular reviews. Where instruments are referred to, such as FCNSW's Annual Reports and Sustainability Reports, those instruments do not provide for monitoring and continual improvement of processes focussed, or measured against, ESFM Principles and outcomes.
- 37. As both the Smith Report and NRC Report identified, there are significant knowledge gaps in relation to the effect of FCNSW's operations under the CIFOA and forest values more generally, and additional monitoring and research is required. Even FCNSW's review of Environmental Impacts and Implications for Timber Harvesting in NSW State Forests dated June 2020 acknowledges that "*a reliable picture of the long term impacts*" of the 2019/20 bushfires will "*take time to establish*".⁴⁰
- 38. FCNSW is in a unique position to be able to collect data and monitor on the ground impacts of the 2019/2020 bushfires, and FCNSW's forestry operations in State Forests more generally, on the forest values of State Forests, and to then apply that data to its proposed forestry operations plans to ensure ESFM Principles are met. The NRC Report highlights FCNSW's unique position by devising a regime for FCNSW to verify site data, and the extent to which a landscape has been burnt, prior to planning and then conducting any forestry operations in fire affected State forests.⁴¹
- 39. Other than seeking to rely on standard CIFOA prescriptions, which do not accommodate events such as the 2019/20 bushfires, or to merely list research programs that FCNSW participates in,⁴² the Draft FMP FCNSW has not made any commitment to obtaining, verifying and monitoring data from State Forests.
- 40. Further, given the limitations in data, any voluntary measures proposed / adopted by FCNSW, or the Smith Report and NRC Report, have been substantiated with limited data and are based on assumptions. It is, therefore, imperative that any measures, voluntary or otherwise, be applied alongside concerted efforts by FCNSW to monitor and verify the accuracy of the assumptions that have been applied to ensure that ESFM Principles are met. The Draft FMP

³⁷ Draft FMP, pages 69 to 81.

³⁸ Smith Report, page 6; NRC Report, page 89.

³⁹ See Eden RFA, clauses 42, 43 and 96.2; Southern RFA, clauses 42, 43 and 107.2; North East RFA, clauses 44, 45 and 109.2.

⁴⁰June 2020 Report, page 7.

⁴¹ See NRC Report and proposed Gateway 3 at page 20.

⁴² Draft FMP, pages 21 to 22.

does not outline any SMART Targets to effectively review and adapt additional voluntary measures and, therefore, fails to provide for an adaptive management framework.

41. Our submission is consistent with the findings in the Smith and NRC Reports, which state additional monitoring and research is required to support an adaptive management framework for forestry operations in NSW's native hardwood forests.⁴³ The NRC Report states that an adaptive management framework should intervene purposefully to obtain new information and insights, not merely rely on incremental improvements based on observations.²⁴⁴ The Smith Report states that following the 2019/20 bushfires:

"The recovery of biodiversity, ecological carrying capacity and threatened species after fire and logging (both historical and proposed logging) will depend on the modelling, mapping and protection of unburnt or lightly burnt fire refuges (areas with a lower risk of future wildfire) and their connection by corridors....⁴⁴⁵

42. Further, given the findings in both the Smith Report and NRC Report, that there are risks of serious and irreversible harm to certain State Forests should forestry operations continue, FCNSW is required under the precautionary principle to cease its forestry operations in those areas. Because the Draft FMP does not provide for adequate monitoring and reporting activities or adaptive management practices, FCNSW has not demonstrated that it can proceed with its forestry operations in particular State Forests pursuant to ESFM Principles, including the precautionary principle, should its forestry operations be carried out in those particular State Forests.

The Draft FMP fails to provide any strategy for reducing non-compliance events with the ESFM <u>Principles</u>

43. It is concerning that FCNSW has recently been the subject of several fines and prosecutions for breaching its obligations under the Forestry Framework, including following the 2019/20 bushfires in critical habitats where the risk of harm was significant and one would expect FCNSW to have taken extra care in the relevant State Forests. Examples include the following.

Post Bushfire Breaches where SSOCs applied

It is particularly concerning that FCNSW breached operating conditions in State forests where SSOCs applied, given that SSOCs were issued to provide greater protection to severely fire affected landscapes and the associated risks of harm to those landscapes as a result of non-compliances.

a) In or around July 2020, the EPA issued FCNSW with a Stop Work Order to stop the harvesting of trees in part of South Brooman State forest for 40 days, after an inspection found hollow bearing trees that were either damaged or felled. The EPA subsequently

⁴³ See, for example, additional research and monitoring needs identified in the NRC Report at page 56.

⁴⁴See also Smith Report at pages 24 to 25 regarding the need to develop additions and modifications to the CIFOA to deliver ESFM in the absence of key scientific knowledge/ data on the impacts of the 2019/20 bushfires on biodiversity. ⁴⁵ Smith Report, page 2.

issued FCNSW with a \$15,000 fine, after FCNSW were required to put additional checks in place to ensure they met conditions and failed to do so;⁴⁶

- b) In or around April 2022, the EPA issued FCNSW with a fine of \$45,000 for destroying the habitat of endangered species in Mogo State forest;⁴⁷
- c) The EPA is currently prosecuting FCNSW for breaching conditions imposed to aid the recovery of the Yambulla State Forest, near Eden after the 2019/20 bushfires. The EPA alleges more than 50 trees were cut down in an "unburned" and "partially burned" environmentally significant areas;⁴⁸

Breaches of the CIFOA

- d) In or around February 2021, the EPA fined FCNSW \$15,000 for failing to mark out a prohibited logging zone in Olney State forest from between January 2019 to March 2020;⁴⁹
- e) In or around February 2021, the EPA issued two penalty notices to FCNSW, comprising \$15,000 for each breach, and an official caution for contravening regulatory requirements in the Ballengarra State Forest in the mid north coast of NSW;⁵⁰
- f) In or around March 2021, the EPA issued FCNSW with penalty notices for allegedly not including the critically endangered Swift Parrot records in planning for operations, and has also delivered three official cautions for an alleged failure by FCNSW to mark-up eucalypt feed trees, an essential source of food for the birds, prior to harvesting;⁵¹
- g) In or around June 2022, the EPA issued fines and claimed costs totalling \$285,000 against FCNSW for tree felling in exclusion zones, which had caused actual harm to koala habitat in Wild Cattle Creek Forest near Coffs Harbour in 2018;⁵²
- h) On 22 June 2022, the NSW Land and Environment Court handed down judgment against FCNSW in relation to FCNSW breaching threatened species licences on three separate

⁴⁶ See NSW EPA, 'Alleged non-compliance with forestry regulations costs Forestry Corporation NSW,' < <u>https://www.epa.nsw.gov.au/news/media-releases/2022/epamedia220623-alleged-non-compliance-with-forestry-regulations-costs-forestry-corporation-nsw</u>>.

⁴⁷ See NSW EPA, 'Forestry Corporation fined for destroying native animal habitat,' < <u>https://www.epa.nsw.gov.au/news/media-</u> releases/2022/epamedia220411-forestry-corporation-fined-for-destroying-native-animal-habitat>

⁴⁸ See NSW EPA, FCNSW in court for alleged breaches of 2019/20 bushfire harvest rules,' < <u>https://www.epa.nsw.gov.au/news/media-releases/2022/epamedia220620-fcnsw-in-court-for-alleged-breaches-of-201920-bushfire-harvest-rules</u>>.

⁴⁹ See NSE EPA, 'Forestry Corporation fined for failing to mark out a prohibited logging zone,' < https://www.epa.nsw.gov.au/news/media-releases/2021/epamedia210218-forestry-corporation-fined-for-failing-to-mark-out-a-prohibited-logging-zone>.

 $^{^{\}rm 50}$ See NSW EPA, 'Forestry Corporation fined for failing to mark out a prohibited logging zone,' <

https://www.epa.nsw.gov.au/news/media-releases/2021/epamedia210226-forestry-corporation-fined-for-failing-to-mark-out-a-prohibited-logging-zone>.

 $^{^{51}}$ See NSW EPA, 'Forestry Corporation fined \$33K for failing to keep records, endangering parrots, <

https://www.epa.nsw.gov.au/news/media-releases/2021/epamedia210301-forestry-corporation-fined-\$33k-for-failing-to-keep-records-endangering-parrots>.

⁵² See NSW EPA, 'Forestry Corporation NSW fined for forestry activities near Coffs Harbour,' < <u>https://www.epa.nsw.gov.au/news/media-</u>

releases/2022/epamedia220616#:~:text=The%20EPA%20commenced%20the%20prosecution,wildlife%2C%20such%20as%20the%20K oala>.

occasions between 4 April 2019 and 2 May 2019 in Dampier State Forest, (**Dampier Forest Case**).⁵³ FCNSW was fined \$45,000, \$75,000 and \$65,000 respectively. The Court further ordered that FCNSW:

- i. engage a Registered Training Organisation (**RTO**) to undertake an audit to *inter alia*:
 - a) analyse the skills, functions and roles performed by "authorised persons" under the CIFOA to determine the experience, qualifications and competency level required to identify operational boundaries; and
 - b) assess all training provided to authorised persons regarding the identification of operational boundaries and field mapping.
- to provide the EPA with a written report outlining the outcomes and any recommendations made by the RTO, including how the recommendations (if any) will be implemented by FCNSW; and
- iii. within 12 months of the date that it provides the report, implement the recommendations in the report and provide the EPA with a written report confirming the implementation of the recommendations made by the RTO.
- 44. The EPA also has commenced prosecutions against FCNSW in relation to its conduct in Tomerong State Forest.
- 45. FCNSW has repeatedly breached the Forestry Framework over recent years, including contraventions in severely fire affected State Forests subject to SSOCs. As demonstrated by the Dampier Forest Case, there are real concerns as to whether those conducting critical tasks such as identifying and marking up operational boundaries are sufficiently trained and skilled to do so. It is also concerning that the Court has formed the view that an independent audit of FCNSW's internal processes is necessary, such processes being critical to it implementing ESFM Principles. The Dampier Forest Case provides a stark example of FCNSW's failure to implement adaptive management processes, contrary to the ESFM Principles.
- 46. Despite FCNSW's repeated breaches of the Forestry Framework, the Draft FMP fails to provide any SMART targets to monitor and adapt FCNSW's practices, to ensure that its forestry operations align with ESFM Principles.

The Application of Sustainable Yield Modelling Does Not Ensure ESFM Principles

47. The Draft FMP refers to FCNSW's FRAMES model as a model that is continually being improved, and one that estimates a net harvestable area, characterises the forest and undertakes growth and yield simulation and yield scheduling. ⁵⁴ The application of sustainable yield modelling is

⁵³ Environment Protection Authority v Forestry Corporation of NSW [2022] NSWLEC 75.

⁵⁴ See Draft FMP, pages 65 to 66.

relevant to ESFM Principles. However, the process is largely focussed on the sustainability of wood supply, not more broadly on the *ecological* sustainability of forest ecosystems across the Coastal Region. As such, even if the sustainable yield calculations applied in the post-bushfire context are fit for the purpose of addressing timber yield, they only go a small way towards addressing ESFM Principles as they apply more broadly to the long term maintenance of forest values across the CIFOA region.

- 48. FCNSW's FRAMES model is dependent on an estimate of net harvestable area to be able to calculate volume production from the productive forest estate. Both the Smith Report and NRC Report state that the area of State Forest that can be sustainably harvested following the 2019/20 bushfires is significantly less than what is provided for in the CIFOA. The NRC Report, for example, states that management areas that it has classified as extreme risk areas cannot be harvested at all until February 2023, at which point a reassessment of the status of the relevant State Forests can occur. Should harvesting occur in the extreme risk areas the NRC Report indicates that there is a risk of serious and irreversible harm to the relevant State Forest.⁵⁵
- 49. The NRC Report also states that the FCNSW post-modelling completed in the first half of 2020, used early field observations of the post-fires condition of State Forests. Associate Professor Cris Brack's review of the FCNSW's post fire re-modelling recommended that the assumptions underpinning FCNSW's re-modelling be reviewed once repeated field measurements re safe and practical and that a sensitivity analysis of key assumptions be undertaken, and that monitoring of successful regeneration and tree form post-fire and under potential climate change scenarios will be important.⁵⁶ The Draft FMP fails to address concerns in relation to reduced harvestable areas and the recovery of those areas in any meaningful way and does not, therefore, demonstrate effective adaptive management processes.
- 50. The NRC Report also identifies limitations to FCNSW's long term sustainable yield projections due to uncertainty associated with future climate impacts on forest growth and changes to fire and drought frequency severity, with the NRC stating that FRAMES does not incorporate climate change into yield projections.⁵⁷ The Draft FMP fails to address these concerns in any meaningful way, or provide an ESFM Strategy for addressing the shortcomings of its sustainable yield calculations to accommodate possible climate impacts to State Forests.⁵⁸

⁵⁵ NRC Report, page 2.

⁵⁶ NRC Report, page 42.

⁵⁷ NRC Report, page 46.

⁵⁸ See also paragraphs 51 to 60 below.

Recommendation 5: The FMP should include specific, measurable objectives and targets, such as Specific, Measurable, Achievable, Relevant and Time Bound targets (SMART Targets), relevant to achieving the ESFM Principles.

Recommendation 6: The FMP must include an adaptive management framework, which includes ongoing monitoring and measurable objectives and targets to ensure FCNSW's is effectively delivering its ESFM Strategy.

Recommendation 7: The FMP should incorporate regular review processes, such as independent audits, to review the veracity and efficacy of FCNSW's ESFM strategies and the assessments underpinning those strategies.

Key Issue 3: The Draft FMP fails to identify and integrate relevant climate risks and adaptation responses into the monitoring, evaluation and reporting requirements of the FMP

- 51. The NSW RFAs require FMPs to identify and integrate relevant climate risks and adaptation responses into the monitoring, evaluation and reporting requirements of FMPs.⁵⁹
- 52. The NSW RFAs specifically provide that integrating climate change adaptation into Forest Management is required to build resilience and manage climate risks and meet the objectives of ESFM.⁶⁰
- 53. Climate change has, and will continue to, significantly impact native hardwood forests and forest values. The 2019/20 bushfires resulted in unprecedented changes to disturbance regimes across the native hardwood forest estate.⁶¹ Other recent climate related impacts include the widespread flooding across NSW in much of the same areas as the bushfires.
- 54. The impacts of climate change, including an increase in extreme weather events and more intense fire seasons, will continue to threaten Australia's native forests, wildlife and biodiversity.⁶² Extreme heat days, longer dry spells, and harsher fire weather will increasingly become the norm.⁶³
- 55. Both the Smith Report and NRC Report state that the CIFOA does not accommodate risks of climate change to the magnitude of the 2019/20 bushfires.⁶⁴ Indeed, the Smith Report states that:

⁵⁹ See paragraph 1717.a herein (See Eden RFA, clause 46(i) (page 35 of PDF); Southern RFA, clause 47(i); North East RFA, clause 48(i)).

⁶⁰ Eden RFA, clause 67C(b); Southern RFA, clause 71C(b); North East RFA, clause 72C(b).

⁶¹ See NRC Report, page 115 to 116; See also Commonwealth Scientific and Industrial Research Organisation (CSIRO <u>www.climatechangeinaustralia.gov.au/en/changing-climate/national-climate-statement/</u>; see also NSW Department of Planning, Industry and Environment, *Adapt NSW*, <u>https://climatechange.environment.nsw.gov.au/</u>

⁶² See NRC Report, page 116.

⁶³ The impacts of a warming climate on Australia are set out in more details in Bureau of Meteorology and CSIRO, *State of the Climate 2020* (2020), <u>www.bom.gov.au/state-of-the-climate</u>

⁶⁴ See NRC Report, page 102; Smith Report, page 2.

"Current CIFOA Conditions and Protocols for timber harvesting contain no specific measures to protect biodiversity from the cumulative, and additive or multiplicative effects of fire and logging."⁶⁵

- 56. The effects of wildfire on biodiversity are compounded by the effects of past timber harvesting in state forests,⁶⁶ ongoing habitat loss and increases in pests and diseases.
- 57. FCNSW's capacity to meet ESFM Principles will depend on its ability to effectively respond and adapt to climate change risks including in relation to its sustainable yield calculations, preservation of critical habitat and preservation of forest values. The NRC Report states in relation to climate impacts:

"The 2019 /20 significantly changed disturbance regimes and the direction and magnitude of this change are likely to be reinforced in coming decades. This means that the area of the Coastal IFOA that will be exposed to high frequency and high intensity wildfires is likely to increase substantially. Commensurate increases in risk to all the objectives and outcomes of the Coastal IFOA, such as water quality, forest regeneration and structure, carbon storage and threatened species conservation are likely. The capacity of management actions to counter such changes may be limited, given the magnitude of risks."⁶⁷

"Major interventions, such as targeted defence of refugia and key populations (for example, as carried out for the Wollemi Pine during the Gosper's Mountain Fire in late 2019) may be required along with other actions such as translocations."⁶⁸

- 58. The Draft FMP briefly states that FCNSW is finalising a Climate Change Strategy.⁶⁹ The Draft FMP does not outline the contents of the Climate Change Strategy or how it will be implemented to enable FCNSW to achieve the ESFM Principles in relation to every aspect of its forestry operations, if that is the purpose of the relevant strategy.
- 59. The Draft FMP otherwise contains no other reference to how FCNSW will:
 - a. identify relevant climate risks;
 - b. integrate climate risk responses into its FMP to enable it to achieve ESFM Principles;
 - c. adapt its ESFM Strategy to monitor, evaluate, report on and respond to climate risks.
- 60. Given the significance of climate risks to FCNSW's ability to meet ESFM Principles, it is critical that the FMP identify and integrate relevant climate risks and adaptation responses into the monitoring, evaluation and reporting requirements of the FMP. Otherwise, any ESFM Strategy developed by FCNSW will be wholly inadequate.

⁶⁵ Smith Report, page 24; See also Appendix C, number 9.

⁶⁶ Smith Report, page 1.

⁶⁷ NRC Report, pages 115 to 116.

⁶⁸ NRC Report, page 116.

⁶⁹ Draft FMP page 34.

Recommendation 8: The FMP must identify and integrate relevant climate risks and adaptation responses into the monitoring, evaluation and reporting requirements of the FMP and outcome statements.

Conclusion

As outlined in our submission, we are concerned that the Draft FMP fails to meet key requirements of the Forestry Framework. In particular, we are concerned that the Draft FMP does not deliver an effective ESFM Strategy. This is disappointing given that the recovery of the State Forests following the 2019/20 bushfires is in a critical stage. Without improvements to its management of forests, FCNSW's forestry operations will likely result in serious and irreversible harm to the environment, to the extent that they have not already.

We have made a number of key recommendations for addressing the shortcomings of the Draft FMP, set out throughout our submission. We would welcome the opportunity to provide more detailed submissions in relation to specific aspects of the Draft FMP, should this be useful to FCNSW.

Appendix A

The ESFM Principles

The NSW RFAs

At page 5 –

Definition of ESFM

"Ecologically Sustainable Forest Management" or "ESFM" means forest management and use in accordance with the specific objectives and policies for ecologically sustainable development as detailed in the National Forest Policy Statement. Principles are elaborated and as further described in Attachment [13 or 14 to the relevant RFA]."⁷⁰

Attachments 13/1471 -

PRINCIPLES OF ECOLOGICALLY SUSTAINABLE FOREST MANAGEMENT (ESFM)

Principle 1: Maintain or increase the full suite of forest values for present and future generations across the NSW native forest estate

- The principle of intergenerational equity (that in meeting the needs of the present generation, the ability of the future generations to meet their own needs is not compromised) is embodied in this principle.
- Ensure that ESFM at the regional and smaller scales is implemented by ecologically appropriate planning and operational practices, and that ESFM targets are set and indicators of performance are monitored.
- Ensure the long-term maintenance of the full range of values of the NSW existing forest estate. The intention is to maintain or increase not only the full range of values, but also the magnitude or level at which those values are maintained or increased.
- Encourage the increased production of plantation-grown timber and the social and economic benefits flowing from this increased production to supplement the wood supply from native forests.

Aims for values include

A Biodiversity

- Biological diversity of forests at the ecosystem, species and genetic levels where biological diversity includes natural patterns of ecosystems, species and gene pools in time and space.
- Address the requirements of vulnerable species.
- Assist with the recovery of threatened species and maintain the full range of ecological communities at viable levels.

 $^{^{\}rm 70}$ See Eden RFAs and North East RFA, Attachment 14 and Southern RFA, Attachment 13.

⁷¹ Ibid.

• Protect landscape values through the careful planning of operations and the reservation of appropriate patches and corridors of vegetation.

B The productive capacity and sustainability of forest ecosystems

- Maintain ecological processes within forests (such as the formation of soil, energy flows and the carbon, nutrient and water cycles, fauna and flora communities and their interactions).
- Maintain or increase the ability of forest ecosystems to produce biomass whether utilised by society or as part of nutrient and energy cycles.
- Ensure the rate of removal of any forest products is consistent with ecologically sustainable levels.
- Ensure the deleterious effects of activities/disturbances which threaten forests, forest health or forest values are minimised.

C Forest ecosystem health and vitality

- Reduce or avoid threats to forest ecosystems from introduced diseases, exotic plants and animals, unnatural regimes of fire or flooding, wind shear, land clearing and urbanisation.
- Promote good environmental practice in relation to pest management.
- Ensure the deleterious effects of activities/disturbances within forests, their scale and intensity, including their cumulative effects are minimised.
- Restore and maintain the suite of attributes (ecological condition, species composition and structure of native forests) where forest health and vitality have been degraded.

D Soil and water

- Maintain the chemical and biological functions of soils by protecting soils from unnatural nutrient losses, exposure, degradation and loss.
- Maintain the physical integrity of soils by protecting soils from erosion, mass movement, instability, compaction, pulverisation and loss.
- Protect water quality (physical, chemical, biological) by measures controlling disturbance resulting from forest activities.
- Identify and maintain at appropriate levels, water yield and flow duration in catchments.

E Positive contribution of forests to global geochemical cycles

• Maintain the positive contribution of forests to the global geochemical cycle (includes climate, air and water quality and deposition).

F Long-term social and economic benefits

- Maintain and enhance, on an ecologically sustainable basis, production of wood and wood products, including value adding, investment and resource security.
- Provided it is ecologically sustainable, set, maintain or enhance the level of use of non-wood products and uses, including bee-keeping, grazing, mining, recreation and tourism, reliable water supply

- Maintain and enhance, on an ecologically sustainable basis, the provision of employment and community needs such as economic diversification, investment skills, education, jobs stability, training and Indigenous needs.
- Encourage the establishment and use of plantation forests on existing cleared land to expand social and economic values.
- Maintain and enhance the intangible social welfare benefits which forests provide.

G Natural and cultural heritage values

• Protect social, natural and cultural heritage values and sites, including aesthetic, landscape, historic, cultural, educational, scenic, spiritual and scientific values, including Indigenous values and sites.

Principle 2: Ensure public participation, access to information, accountability and transparency in the delivery of ESFM.

- Ensure public participation in decision-making processes at local, regional and State and Federal levels.
- Ensure comprehensive, timely and reasonable public access to information.
- Ensure transparency, openness and accountability in decision making processes and performance.

Principle 3: Ensure legislation, policies, institutional framework, codes, standards and practices related to forest management require and provide incentives for ecologically sustainable management of the native forest estate.

• Establish a process for shared management and administration, recognising the customary and traditional rights of Indigenous people, and the interests of private land-holders and other stakeholders in an area's management.

Principle 4: Apply precautionary principles for prevention of environmental degradation

The incorporation of the precautionary principle into decision making has been endorsed by State and Commonwealth Governments (Commonwealth of Australia 1992 p. 49, IGAE 1992) and is defined as 'where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:

- careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; and
- an assessment of the risk-weighted consequences of various options.

Principle 5: Apply best available knowledge and adaptive management processes

ESFM would utilise the concept of adaptive management and continuous continual improvement based on best science and expert advice and targeted research on critical gaps in knowledge, monitoring or evaluation.

National Forest Policy Statement

At page 7 –

1.1 Conservation

•••

"The protection of the full range of forest ecosystems and other environmental values is fundamental to ecologically sustainable forest management. It entails the maintenance of the ecological processes that sustain forest ecosystems, the conservation of the biological diversity associated with forests (particularly endangered and vulnerable species and communities), and the protection of water quality and associated aquatic habitats."

At pages 10 and 11 –

Ecologically sustainable forest management and codes of practice

Ecologically sustainable forest management will be given effect through the continued development of integrated planning processes, through codes of practice and environmental prescriptions, and through management plans that, among other things, incorporate sustainable-yield harvesting practices. The management plans will provide a set of operational requirements for wood harvesting and other commercial and non-commercial uses of forest areas, including conservation reserves and leased Crown land.

To ensure that nature conservation objectives are met in forests, the management of public native forests outside the reserve system will complement the objectives of nature conservation reserve management. Forest management agencies will continue to assess forest areas for the purpose of developing strategic management plans and, where necessary, operational harvesting plans. As a consequence of these forest assessments, areas that have important biological, cultural, archaeological, geological, recreational and landscape values will continue to be set aside and protected from harvesting operations or managed during operations so as to safeguard those values.

• Accordingly, and in keeping with the 'precautionary principle', the State Governments will undertake continuing research and long-term monitoring so that adverse impacts that may arise can be detected and redressed through revised codes of practice and management plans."

At GLOSSARY

page i

Definition of Ecologically Sustainable Development

"There is no common definition in the literature for the term 'ecologically sustainable development'. In considering this issue, the Ecologically Sustainable Development Working

Group on Forest Use specified three requirements for sustainable forest use: maintaining the ecological processes within forests (the formation of soil, energy flows, and the carbon, nutrient and water cycles); maintaining the biological diversity of forests; and optimising the benefits to the community from all uses of forests within ecological constraints. The National Forest Policy Statement adopts these principles as the basis for ecologically sustainable development."

Forestry Act 2012 (NSW)

Section 69L(2)

Purpose of Integrated Forestry Operations Approvals

•••

"(2) In this section – principles of ecologically sustainable forest management means the following -

a. maintaining forest values for future and present generations, including:

- *i.* forest biological diversity, and
- *ii.* the productive capacity and sustainability of forest ecosystems, and
- iii. the health and vitality of native forest ecosystems, and
- *iv.* soil and water quality, and
- v. the contribution of native forests to global geochemical cycles, and
- vi. the long term social and economic benefits of native forests, and
- vii. natural heritage values,
- b. ensuring public participation, provision of information, accountability and transparency in relation to the carrying out of forestry operations,
- c. providing incentives for voluntary compliance, capacity building and adoption of bestpractice standards,
- d. *applying best-available knowledge and adaptive management processes to deliver bestpractice forest management,*
- e. applying the precautionary principle (as referred to in section 6 (2) (a) of the Protection of the Environment Administration Act 1991) in preventing environmental harm."

Appendix B

Analysis of References to ESFM Principles in Draft FMP

No	ESFM Principle	Reference in Draft FMP	Observations	Impact On Draft FMP ⁷²
NSW RF	As (Attachments 13/ 14)			
1	Maintain or increase the full	Background and Context:	Background and Context:	FCNSW's Draft FMP:
	suite of forest values for present	Some forest values briefly and	There is no express	1. fails to identify the
	and future generations across	(mostly) indirectly referred to,	reference to principle 1.	elements of Principle 1 of
	the NSW native forest estate	including Forest Biodiversity	Any references to aims for	ESFM and the respective
		(at 3.1), Forest ecosystem	values of principle 1, such	forest values;
	See Appendix A to this	health and vitality (Forest	as Biodiversity, are	2. fails to identify and
	Submission, which details	Health at 3.3), Soil and Water	incomplete and do not	describe the current forest
	Principle 1 in full.	(at 3.5), Positive Contribution	refer to all aims for values	values relevant to
		of forests to global	contained in Attachments	Principle 1, including the
	Principle 1 includes:	geochemical cycles (Climate	13 or 14. Given the Draft	status quo of those values
	A. Biodiversity	Change at 3.8), Long term	FMP should provide an	and any quantitative or
	B. The productive capacity and	social and economic benefits	ESFM Strategy, there is a	qualitative analysis; ⁷⁴
	sustainability of forest	(Community at 4), Natural and	distinct lack of analysis as	3. haphazardly/
	ecosystems	Cultural heritage values	to the inadequacies of the	incompletely /
	C. Forest Ecosystem health and	(Cultural Values at 4.6).	existing framework and its	inadequately references
	vitality		ability to meet principle 1.	forests values;
	D. Soil and Water	Hardwood Division:		4. fails to provide any
		"Maintain the full suite of	Hardwood Forests:	meaningful analysis of the
		environment and heritage		status quo regarding

⁷² See "Part A – Legal Framework" to these submissions. ⁷⁴ See for example the changes to forest values in the native hardwood forests outlined in the NRC Report (including at pages 87, 89, 92, 95, 99, 110, 131, 135) and Smith Report (including at pages 1 and 26.)

Νο	ESFM Principle	Reference in Draft FMP	Observations	Impact On Draft FMP ⁷²
	 E. Positive Contribution of forests to global geochemical cycles F. Long term social and economic benefits G. Natural and Cultural Heritage Values 	values across the forested landscape." ⁷³ Indirect reference to some forest values, Elements of Forest Ecosystem Health and Vitality (Weed Management (at 7.4.2), Forest health, eucalypt decline, disease and insects (at 7.4.3); Soil and Water (7.4.6).	 The possible reference to Principle 1, quoted in the left hand column: Omits a reference to "increasing forest values," Refers to "environment and heritage "instead of "forest values," which comprise six different values; Omits that forest values are to be increased or maintained for "present and future generations across the NSW native forest estate." References to forest values are made indirectly, are 	 whether Principle 1 is being met, having regard to the Forestry Framework, the current environment and the impact of FCNSW's forestry operations; fails to provide any strategy for implementing / managing Principle 1, other than to recite the existing legislative framework and FCNSW's obligations under that framework; and fails to outline any objectives and targets of management relevant to Principle 1; and fails to specify any ongoing arrangements for monitoring activities specified in the plan and
				reporting against plan

⁷³ Draft FMP, page 61 of 81.

Νο	ESFM Principle	Reference in Draft FMP	Observations	Impact On Draft FMP ⁷²
			incomplete and do not	objectives and targets
			refer to all aims for values.	relevant to Principle 1.
2	Ensure public participation,	Background and Context:	The Draft FMP fails to	Principle 2 is not identified in
	access to information,	Principle 2 not expressly	identify Principle 2.	the Draft FMP, as such, no
	accountability and transparency	identified.		strategy has been developed
	in the delivery of ESFM.			and FCNSW has not
		Hardwood Division:		demonstrated that Principle 2
	See Appendix A to this	Principle 2 not expressly		is being, or will be, met.
	Submission, which details	identified.		
	Principle 1 in full.			For example, in relation to
				native hardwood forests,
				- in relation to
				accountability: there is no
				reference to the lack of
				third party participation
				under section 69ZA of the
				Forestry Act or other
				privative clauses under
				the Forestry Act; or
				- In relation to transparency
				and public participation,
				there are, for example, no
				targets to implement
				deadlines for uploading
				plans of operations so that

Νο	ESFM Principle	Reference in Draft FMP	Observations	Impact On Draft FMP ⁷²
				the public can be fully informed of operations before harvesting occurs.
3	Ensure legislation, policies, institutional framework, codes, standards and practices related to forest management require and provide incentives for ecologically sustainable management of the native forest estate. See Appendix A to this Submission, which details Principle 1 in full.	Background and Context: Principle 3 not expressly identified. Hardwood Division: Principle 3 not expressly identified.	The Draft FMP fails to reference to Principle 3, to analyse any deficiencies in the existing forestry framework and to provide strategies for meeting Principle 3.	Principle 3 is not identified in the Draft FMP, as such, no strategy has been developed and FCNSW has not demonstrated that Principle 3 is being, or will be, met. No reference is made to, for example, the Smith Report and NRC Report in the native hardwood forest context, which provide recommendations in relation to the forestry framework and otherwise state that the existing framework does not support ESFM. Omitting any reference to these reports is wholly inadequate and indicates no real attempt to engage with and implement the ESFM Principles.

Νο	ESFM Principle	Reference in Draft FMP	Observations	Impact On Draft FMP ⁷²
4	Apply precautionary principles	Background and Context:	The Draft FMP does not	The Draft FMP fails to
	for prevention of environmental	Principle 4 not expressly	expressly refer to principle	demonstrate that FCNSW's
	degradation	identified. Reference to	4. It does not state that	forestry operations are, or will
		principle as follows:	FCNSW implements the	be, meeting Principle 4 of
	See Appendix A to this	"Forestry Corporation applies a	precautionary principles,	ESFM.
	Submission, which details	risk-based methodology,	as is required under ESFM,	
	Principle 1 in full.	recognising that where threats	but rather states that it is	Referencing "risk based
		of serious or irreversible	"recognised". No	methodologies," without
		damage are identified, a lack of	reference to how the	outlining how those
		full scientific certainty will not	precautionary principle is	methodologies are applied
		be used as a reason for	implemented.	and implemented to meet the
		postponing measures to		precautionary principle is
		minimise adverse impacts."75		wholly inadequate and does
				not amount to a strategy.
		Hardwood Division:		
		Principle 4 not expressly		FCNSW also fails to address
		identified.		the findings in the Smith
				Report and NRC Report
				regarding native hardwood
				forests. ⁷⁶ Those reports find,
				<i>inter alia</i> , that should
				harvesting continue without
				SSOCs or necessary interim
				measures, the precautionary

⁷⁵ Draft FMP, page 14 of 81. ⁷⁶ See NRC Report at page 89, which provides, "The impact of the wildfires on ongoing habitat suitability is unknown for most impacted fauna species and requires more time and research."

No	ESFM Principle	Reference in Draft FMP	Observations	Impact On Draft FMP ⁷²
				principle would be breached.
				FCNSW has not followed those
				recommendations and has not
				addressed in the Draft FMP
				how it has and plans to meet
				the precautionary principle in
				light of the findings.
5	Apply best available knowledge	Background and Context:	No express reference to	The Draft FMP does not
	and adaptive management	Principle 5 not expressly	Principle 5 throughout	identify areas or process that
	processes	identified.	Draft FMP. Where	require adaptive management
			references to adaptive	or where continual
		The Draft FMP refers to	management is made,	improvements can be made,
	See Appendix A to this	elements of the principle, for	there is limited, if no,	other than in existing
	Submission, which details	example at Monitoring and	reference to continual	processes, such as FRAMES. It
	Principle 1 in full.	audit (at 2.1.4), Research and	improvement based on	does not identify where there
		Development (at 2.4), Forest	best science and expert	are any gaps in knowledge,
		Biodiversity (at 3.1), Our Forest	advice and targeted	monitoring or evaluation. As
		Management System (at 1.1.3).	research on critical gaps in	such, the Draft FMP does not
			knowledge, monitoring or	provide any meaningful
		Hardwood Division:	evaluation. There is a	strategy that relates to
		Principle 5 not expressly	distinct lack of analysis as	Principle 5 of ESFM or
		identified. The Draft FMP refers	to what can be adaptively	demonstrate that Principle 5
		to elements of the principle at	managed and improved to	is being, or will be, met.
		Continuous FRAMES	enable ESFM. For example,	The Draft FMP also fails to
		improvements (at 7.3.3.1),	the Draft FMP's reference	address criticisms of FCNSW's

Νο	ESFM Principle	Reference in Draft FMP	Observations	Impact On Draft FMP ⁷²
		Yield reconciliation (at 7.3.3.2)	to monitoring of forest	processes and gaps in its
		Native Forest Regeneration (at	values and adaptive	research, per the Smith Report
		7.4.4.11).	management process,	and NRC Report. ⁸⁰ The
			whether in Softwood	findings in those reports
			Plantations or Hardwood	suggest FCNSW's processes do
			forests is very limited in	not support adaptive
			relation to all forest	management or ESFM.
			values. Further, at 7.3.3.1,	FCNSW has not indicated the
			the Draft FMP refers to an	basis upon which it can
			interim review of FRAMES	continue its forestry
			to demonstrate FRAMES	operations in native forests
			continual improvement.	where its process fail to meet
			The report dated June	Principle 5.
			2020 that is referenced has	
			been criticised by the NRC	
			and EPA for failing to	
			accurately depict scientific	
			knowledge available and	
			best practice	
			management. It is	
			therefore wholly	
			inadequate to continue to	
			rely on this assessment	
			and suggest that this	
			assessment is	

⁸⁰ See recommendations in NRC Report, including at pages 11, 56, 83.

No	ESFM Principle	Reference in Draft FMP	Observations	Impact On Draft FMP ⁷²
			demonstrative of adaptive	
			management and	
			continual improvement.	
			No reference is made to	
			the NRC's	
			recommendation to	
			improve FRAMES by	
			incorporating future	
			climate impacts on forest	
			growth and changes to fire	
			and drought frequency	
			and severity, ⁷⁷ the need to	
			improve sustainable yield	
			modelling by	
			incorporating changes in	
			climate and fire regimes	
			and post mortality and	
			growth assumptions, ⁷⁸ or	
			strengthening FRAMES	
			through a spatially based	
			wood supply yield	
			modelling platform that	
			can provide data on	
			landscape and operational	

⁷⁷ NRC Report, page 46 of 153.
 ⁷⁸ NRC Report, page 46 of 153.

Νο	ESFM Principle	Reference in Draft FMP	Observations	Impact On Draft FMP ⁷²
			scale wood supply and efficiently estimate the impacts of large scale stochastic events, such as fire and other disturbances as well as climate change scenarios. ⁷⁹ The Draft FMP fails to demonstrate adaptive management process and continual improvement. (page 69 of pdf)	
ESFM per th	ne Forestry Act – Applies to native st	ate forests in hardwood division		
S69L(2)(a)	maintaining forest values for	Hardwood Division (Native	Hardwood Division	Hardwood Division (Native
	future and present generations,	Forests):	(Native Forests):	Forests):
	including –	See Principle 1 above.	See Principle 1 above.	See Principle 1 above.
	i. forest biological			
	diversity, and			
	ii. the productive capacity			
	and sustainability of			
	forest ecosystems, and			

⁷⁹ NRC Report, page 46 of 153.

Νο	ESFM Principle	Reference in Draft FMP	Observations	Impact On Draft FMP ⁷²
	iii. the health and vitality of			
	native forest			
	ecosystems, and			
	iv. soil and water quality,			
	and			
	v. the contribution of			
	native forests to global			
	geochemical cycles, and			
	vi. the long term social and			
	economic benefits of			
	native forests, and			
	vii. natural heritage values,			
S69L(2)(b)	ensuring public participation,	Hardwood Division (Native	Hardwood Division	Hardwood Division (Native
	provision of information,	Forests):	(Native Forests):	Forests):
	accountability and transparency	See Principle 2 above.	See Principle 2 above.	See Principle 2 above.
	in relation to the carrying out of			
	forestry operations,			
S69L(2)(c)	providing incentives for	Hardwood Division (Native	Hardwood Division	Hardwood Division (Native
	voluntary compliance, capacity	Forests):	(Native Forests):	Forests):
	building and adoption of best-	See Principle 3 above.	See Principle 3 above.	See Principle 3 above.
	practice standards,		Note the requirements	
			under the Forestry Act also	
			refers to the adoption of	
			best practice standards.	
			The Draft FMP does not	

Νο	ESFM Principle	Reference in Draft FMP	Observations	Impact On Draft FMP ⁷²
			refer to adopting best	
			practice standards in	
			relation to ESFM, other	
			than in relation to existing	
			obligations under the	
			forestry framework.	
S69L(2)(d)	applying best-available	Hardwood Division (Native	Hardwood Division	Hardwood Division (Native
	knowledge and adaptive	Forests):	(Native Forests):	Forests):
	management processes to	See principle 5 above.	See Principle 5 above.	See Principle 5 above.
	deliver best-practice forest			
S69L(2)(e)	management, applying the precautionary	Hardwood Division (Native	Hardwood Division	Hardwood Division (Native
0001(2)(0)	principle (as referred to in	Forests):	(Native Forests):	Forests):
	section 6 (2) (a) of the Protection	See Principle 4 above.	See Principle 4 above.	See Principle 4 above.
	of the Environment			
	Administration Act 1991) in			
	preventing environmental harm.			

Appendix C

Examples of Deficiencies identified in the Current Forestry Framework in the Smith Report and NRC Report

pastal IFOA was not designed to mitigate the risks of ing in a severely fire-affected landscape resulting from an edented event like the 2019 /20 wildfires." ⁸⁵
bastal IFOA objectives and outcomes, and the forestry options to achieve them, were developed prior to the 2019 Ifires. Wildfires of such magnitude were not envisaged or d for in the Coastal IFOA. Tracking recovery of forest health o understand how temporary measures and standard options can effectively manage risks to achieving Coastal jectives and outcomes. ^{™66} agnitude of the shifts in the status of vegetation into the able' category greatly elevates the risk that the Coastal jectives and outcomes related to the risk categories and provide species' may be compromised. The nature of the thresholds, such an increase in risk will elevated over much the Coastal IFOA region for the next en years. ^{™67}

 ⁸⁵ NRC Report, page 13.
 ⁸⁶ NRC Report, page 102.
 ⁸⁷ NRC Report, page 95.

regenerate after severe fires such as those in 2019/20. ⁸¹ " "This review concluded that, particularly in the context of the 2019/20 wildfires, the standard conditions (CIFOA 2018) fail to guarantee ecologically sustainable forest management and are likely to cause an ongoing decline and significant impact on biodiversity, inconsistent with the requirements of the Environment Protection and Biodiversity Conservation Act 1999 and the NSW Forestry Act 2012." ⁸²	Commission considers that this is the most effective way to ensure the NSW Government can provide effective regulatory responses to force majeure events in the future. ⁷⁸⁸ "In interim, there is an urgent need to provide greater environmental protections over what the Coastal IFOA currently provides for. ⁷⁸⁹
"FCNSW has failed to demonstrate and is unable to conclude, that normal CIFOA timber harvesting practices will not have a significant impact on biodiversity in burnt areas. Under these circumstances it would be appropriate to apply new highly precautionary measures to limit harvesting extent and intensity in burnt areas to prevent environmental harm and limit the risk of serious or irreversible damage to threatened species and biodiversity." ⁸³	

 ⁸¹ Smith Report, Page 2.
 ⁸² Smith Report, page 8, see also the key reasons for reaching this conclusion outlined on page 8.
 ⁸³ Smith Report, page 24.
 ⁸⁸ NRC Report, pages 7 and 47.
 ⁸⁹ NRC Report, page 8.

		"Current CIFOA Conditions and Protocols for timber harvesting contain no specific measures to protect biodiversity from the cumulative, and additive or multiplicative effects of fire and logging." ⁸⁴	
2.	CIFOA inadequately preserves critical habitat	"ESAs and other reserves provide substantial areas of retained habitat at both compartment scales (about 5%-45%) and landscape scales (about 45%) within NSW state forests, but the pattern and distribution of these retained areas does not guarantee protection of important unburnt refuges and biodiversity conservation. Critical landscape features including unburnt refuges and late stage forests are not targeted for protection, and retained areas are often too small, too isolated, contain unsuitable habitat, are not specifically located in fire refuges, and are not connected across the landscape by a network of permanent protected corridors in low fire risk areas across all public tenures." ⁹⁰ "Fauna populations surviving in fire refuges in state forests are at risk of elimination by timber harvesting under the normal Coastal Integrated Forestry Operations Approvals (CIFOA) which	"Given the current state of vulnerability of ecosystems and biodiversity within the Coastal IFOA, there is a need to identify and prioritise the most critical ecological elements and their localities, including known locations of threatened species and habitat features that are dependent on a. endangered ecological communities b. landforms that remain vulnerable to soil and carbon loss c. any of these areas that were unburnt in 2019 /20 or burnt and showing strong recovery." ⁹³

 ⁸⁴ Smith Report, page 24.
 ⁹⁰ Smith Report, page 8.
 ⁹³ NRC Report, page 117; See also pages 118, 120, 122 and 124.

		could prevent recovery, and cause catastrophic	
		population decline in species such as the Koala,	
		Greater Glider and Yellow-bellied Glider."91	
		"New conditions are required that focus on permanent protection of large forest patches across regions and landscapes and which capture and include fire refuges (areas of forest that are least likely to be burnt and which provide wildlife oases after fire) and old growth and which link all retained forest in patches larger than 5 hectares in size in a network of permanent wildlife corridors." ⁹²	
3.	SSOCs are an inadequate	"The EPA SSOCs are potentially adequate to	"SSOCs increase protections to address post fire harvesting risk –
	mechanism	mitigate impacts of fire and logging if they are	only meant to be applied at a site-scale and on a case-by-case
		further modified and made permanent, or	basis. Condition 23.4 of the Coastal IFOA was not designed to
		applied for a minimum period of 20-40+ years	address multi-scale impacts and risks of such a significant
		and reviewed only after long term monitoring	magnitudeFurther the SSOCs issued post 2019/20 wildfires only
		has proven them to be no longer necessary. EPA	apply for a period of 12 months, which may not capture the
		SSOCs have been developed in consultation	recovery period for certain forest types or forest dependent species SSOCs are likely to be relatively less efficient and effective
		with FCNSW and Department of Primary	for managing large-scale events It is also unclear if SSOCs will
		Industry (DPI) and add mitigation measures to	achieve forest regeneration outcomes under the Coastal IFOA,
		the standard CIFOA. The SSOC are in place for a	including ecological and wood supply outcomes."95
		12 month period of time after the SSOC are	
		issued in an attempt to facilitate biodiversity	
		recovery in the post fire environment. This short	
		period of validity of the SSOC is the principal	

⁹¹ Smith Report, page 26.
 ⁹² Smith Report, page iii.
 ⁹⁵ NRC Report, page 49 to 50.

		reason why the CIFOA plus SSOC is also not adequate in mitigating the impacts of logging on biodiversity (i.e. the remainder of the compartment can be harvested 12 months later at a crucial period when biodiversity is recovering)." ⁹⁴	
4.	Following 2019/20 bushfires, there is a risk of environmental harm occurring under the CIFOA conditions	"In general, as a precautionary principle, it can be assumed that species of native fauna and flora are adapted to, and able to sustain viable populations, under scales and patterns of fire and logging that do not exceed the scale and pattern of natural disturbances occurring after severe wildfire. Current CIFOA fall well short of constraining timber harvesting to the scale and pattern of natural disturbance." ⁹⁶	"The 2019/20 wildfires greatly elevated risk to achieving the Coastal IFOA objectives and outcomes, particularly in the short- term over the next five to ten years. ⁹⁷
5.	Following 2019/20 bushfires, there is a risk of serious and irreversible environmental harm occurring under the	"The scale of FCNSW operations in State Forests and extent and severity of the 2019/20 wildfires have the potential to cause a combined adverse impact on biodiversity of considerable magnitude."98	"In management zones rated as being extreme risk, there is a risk of serious and irreversible harm to environmental values from the cumulative impacts of fire and harvesting. In line with the precautionary principle, harvesting must be temporarily suspended for three years from the time of fire."99

⁹⁴ Smith Report, page 14.
⁹⁶ Smith Report, page iii.
⁹⁷ NRC Report, page 110.
⁹⁸ Smith Report, page 21.
⁹⁹ NRC Report, page 2

6.	standard CIFOA conditions Interim Measures required to overcome inadequacies in CIFOA conditions	See interim measures recommended at page 25.	See interim measures recommended at page 47.
7.	Greater Monitoring and research required to Develop Effective ESFM Strategy	 "In the 20 years since standards were first applied in NSW there has been little monitoring, scientific analysis and validation of their effectiveness. This lack of adequate monitoring has precluded the use of adaptive forest management and necessitated a continuation of precautionary approaches to take into account the following limitations to current knowledge: a. some rare and threatened species have not been studied and their habitat requirements and sensitivity to fire and logging remain poorly known; b. timber harvesting was generally less intense in the past than it is today so harvesting impacts determined from studies of past logging will generally underestimate future impacts; c. fire intensity was less severe in the recent past than experienced in 2019/20 so that fire impacts determined from surveys of past 	"Research is required to understand what management practices are appropriate for water quality and erosion protection and to identify which soils are prone to post-fire increases in runoff and erosion to help target protections. Without knowledge of where vulnerable post-fire soils are, there is limited data to target restrictions and mitigation actions. The Commission has addressed the increased erosion and sedimentation risks in burnt areas through suspending harvesting in extreme risk management zones, or limiting the extent of harvesting operations in areas that are more severely impacted (i.e. in medium and high risk management zones) and also requiring an on-ground assessment of riparian buffer vegetated groundcover recovery. If the recovery threshold is not met than harvesting is not allowed." ¹⁰¹ "Ensuring the NSW Government has the best empirical evidence regarding the impacts of the full range of management prescriptions will allow faster, more targeted, and more effective responses to future wildfires. This will save money, protect jobs, and better protect forest values, including biodiversity." ¹⁰²

 ¹⁰¹ NRC Report, page 130 to 131.
 ¹⁰² NRC Report, page 9; See also page 87.

		 burning will generally underestimate future impacts; and d. there have been few or no adequate studies of logging and fire impacts at landscape scales."¹⁰⁰ 	
8.	Lack of Enforcement		"In the absence of agreed SSOCs, there is a need for clarity on how the NSW Government is overseeing FCNSW fulfilling its responsibilities in ecologically sustainable forest management (ESFM) in response to the wildfires." ¹⁰³
9.	The Forestry Framework does not address climate change impacts		"The 2019 /20 significantly changed disturbance regimes and the direction and magnitude of this change are likely to be reinforced in coming decades. This means that the area of the Coastal IFOA that will be exposed to high frequency and high intensity wildfires is likely to increase substantially. Commensurate increases in risk to all the objectives and outcomes of the Coastal IFOA, such as water quality, forest regeneration and structure, carbon storage and threatened species conservation are likely. The capacity of management actions to counter such changes may be limited, given the magnitude of risks." ¹⁰⁴
			"More broadly, across the forest estate, major interventions, such as targeted defence of refugia and key populations (for example, as carried out for the Wollemi Pine during the Gosper's Mountain Fire in late 2019) may be required along with other actions such as translocations. ¹⁰⁵ "Managing changes to fire regimes and associated increased risks
			to people, property and environmental values (such as those

¹⁰⁰ Smith Report, page 6.
 ¹⁰³ NRC Report, page 8.
 ¹⁰⁴ NRC Report, pages 115 to 116.
 ¹⁰⁵ NRC Report, page 116.

			embodied in the Coastal IFOA) is a key challenge. There are many management options, including changes to rapid detection of ignition, suppression and hazard reduction, all of which involve interventions in the landscape. Some of these options were the subject of review and recommendations by the NSW Independent Bushfire Inquiry in 2020. For example, the Inquiry recommended changes to detection and aerial suppression capabilities and an increase in hazard reduction activities that strategically target areas of high ignition probability from lightning and the interface between bushland and development. ^{*106}
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¹⁰⁶ NRC Report, page 116