



Government of **Western Australia**
Conservation and Parks Commission

Analysis of Public Submissions
On the
Draft mid-term review of performance of the
Forest Management Plan 2014-2023

February 2019

INTRODUCTION

The Conservation and Parks Commission (Commission) committed to undertake a mid-term and end-of-term performance review as part of management activities in the Forest Management Plan 2014-2023 (FMP).

The Commission's purpose is to act as an independent and trusted community steward and government advisor for the protection of Western Australia's biodiversity and conservation estate while fostering its appreciation and sustainable use. As there is no formal or legal requirement for the review to be submitted to the Environmental Protection Authority, the Commission incorporated a public comment period of six weeks as part of its mid-term performance review.

In informing the public of FMP implementation performance, public comments were sought on the KPI and management action outcomes and the proposed Commission responses to any shortfall in performance targets. These submissions have assisted the Commission in finalising its report to the Minister for Environment.

This document provides a summary and analysis of the public submissions to the *Draft mid-term review of performance of the Forest Management Plan 2014-2023* (draft mid-term review).

Objective of the review

The primary objective of the review is to assess '*the extent to which management of land to which the plan applies has been undertaken in accordance with the plan*' which includes consideration of the extent to which all FMP key performance indicator targets have been achieved.

Management reviews occur at planned intervals to help ensure the FMP is achieving the desired goals. The performance review includes analysing results, identifying underlying causes and developing recommendations to improve performance.

The Commission has consulted with appropriate and representative Noongar groups on the results of the review as detailed under FMP management activity 130. The mid-term review of performance of the Forest Management Plan 2014-2023 report (mid-term review) will be made publicly available on completion.

Methodology

Pursuant to Section 33 (1)(b) and (ba) of the *Conservation and Land Management Act 1984* (CALM Act), DBCA is to provide assistance to the Commission as may be reasonably required for the Commission to perform its functions.

As a review, it has been determined to be appropriate for the managing agencies which are responsible for the delivery of most of the FMP management activities to undertake a self-appraisal of both the management activities and the key performance indicators. As such the level of achievement attributed to each KPI was determined by the Department of Biodiversity, Conservation and Attractions (DBCA) or the Forest Products Commission (FPC), where relevant, and provided to the Commission to enable the review. The mid-term review reports on 24 key performance indicators (KPI) established in the FMP and includes a report card which details progress on the implementation of the 134 management activities in the FMP.

The information provided, self-assessment results and subsequent public submissions were analysed by the Secretariat of the Commission. A sub-committee of the Commission has then considered these results and made recommendations where deemed appropriate for endorsement by the Commission.

The six week public comment period from 10 September to 19 October 2018, and the supporting actions outlined below, meet the requirements for the FMP Management Activities 130, 131 and 132.

The release of the draft mid-term review for public consultation was supported by:

- ◆ media statements from the Minister for Environment and the Commission;
- ◆ advertising in *The West Australian* on Wednesday 10 September 2018;
- ◆ publishing articles on the Commission and the DBCA websites;
- ◆ emailing stakeholders with notice of release;
- ◆ providing digital and hard copies to stakeholders on request;
- ◆ making hard copies available for public viewing from the State Library and Conservation Library in Kensington; and
- ◆ making hard copies available from the Kensington office of the Conservation and Parks Commission.

During the review period, the Secretariat of the Commission was available to stakeholder groups and the general public to provide information and clarification regarding the review process.

Meetings were held with legal officers responsible for the six Aboriginal Working Parties representing native title claimants in the area of the plan and the South West Aboriginal Land and Sea Council.

Submissions received

A total of 2177 submissions were received from individuals, companies, local government, government agencies and non-government organisations. 97 per cent of submissions reflected a proforma submission promoted by the Conservation Council of Western Australia (CCWA) and the Western Australian Forest Alliance (WAFA).

The submissions have been considered and, where appropriate, comments or issues from the submissions have been addressed in the *Mid-term review of performance of the Forest Management Plan 2014-2023* (mid-term review). The mid-term review will be submitted to the Minister for Environment.

Table 1: Summary table of number and origin of submissions.

Category	Number
Proforma submission	2123
Individuals and companies	37
Non-government organisations	15
Government agencies	1
Unknown	1
Total	2177

ANALYSIS OF SUBMISSIONS

Based upon the submissions received during the public comment period, the Commission has taken steps to clarify a number of aspects of the draft in the process of finalisation of the report.

Where submissions have provided additional information or detailed apparent omissions or corrections, the report has been adjusted accordingly. Many submissions were not directly related to the primary objective of the review (i.e. the extent to which management of land to which the plan applies has been undertaken in accordance with the plan) and were determined to be out of the scope of the review. There were some submissions which requested that the plan be amended or replaced. The Commission has determined that ongoing evaluation of the need for revision of management practices in the context of its assessment and auditing function and the refinement of the guidelines and policies referred to in the plan are sufficient means of continually improving performance.

No subjective weighting has been given to any particular submission or comment that would give cause to elevate the importance of any submission or comment over another.

Submissions have been formally registered in the Commission's records management system. Some submitters appeared twice by sending the same response or provided additional information to the Commission's email address. These submissions were only counted as one. An additional 22 submissions were received via email and letters.

Pro forma submissions

The majority of submissions followed a pro forma promoted by the CCWA and Wafa (Figure 1). The Commission considered the content of the proforma including those that were modified as contributing opinion rather than fact and as they contained no new information, the proforma submissions were noted. The modified wording from 86 of the proforma submissions have been compiled in Appendix A. Of the 86 modified submissions, three were supportive of the FMP and the remaining 83 submissions expressed opinions primarily reflecting a general opposition to logging of native forests.

Online, email and mail submissions

32 submissions were made through the Conservation and Parks Commission's webportal (www.conservation.wa.gov.au) using the online form which included a basic questionnaire with the opportunity to provide free text responses and an attachment. A summary of the 32 online responses to the questionnaire is provided in Appendix B (contact details, free text and attachments excluded).

25 submissions were made via direct email and letters to the Commission. It should be noted that three submissions were effectively by the same submitters either doubling up on previously submitted information via the online portal or providing additional information to their original submission. Therefore, in total there were 54 submissions from different organisations or individuals (noting that each submission was still allocated a code from 1 – 57).

All written submissions were considered. As the Key Performance Indicators related to relevant chapters of the FMP, the review identified key themes under each chapter (or key performance indicator grouping) Table 2 shows the comments from submissions under each theme with the related response by the Commission.

Figure 1: Template of proforma submission promoted by WAFA and CCWA

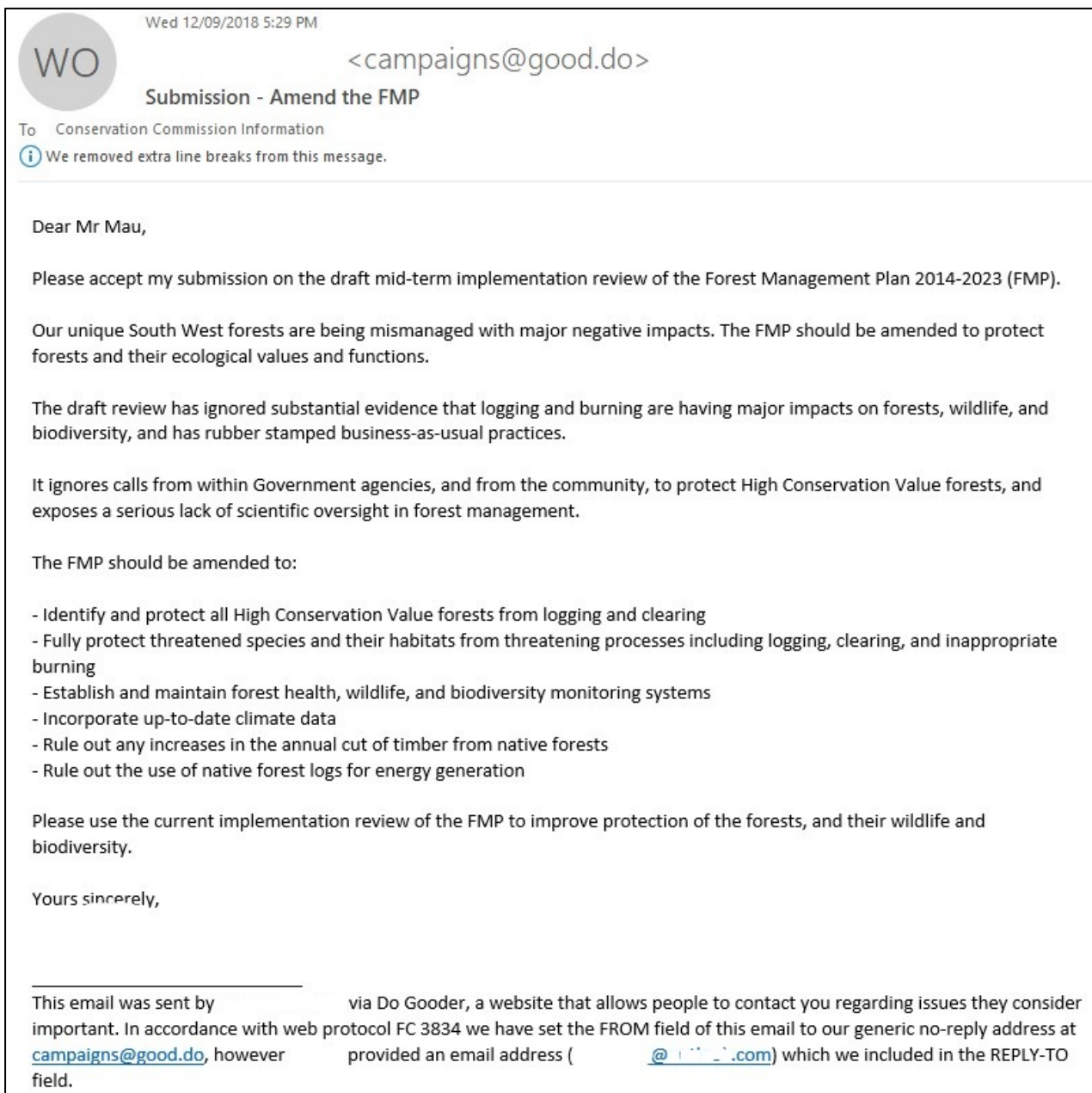


TABLE 2: ANALYSIS OF PUBLIC SUBMISSIONS – ONLINE SURVEY, EMAILS AND LETTERS

Ref Number	Theme	Public comments	Response
Progress on Management actions and Evaluation of Effectiveness			
3, 7, 10, 15, 16, 18, 19, 20, 23, 24, 26, 32, 38, 40, 41, 42, 46, 49, 53, 55	Management resourcing	<ol style="list-style-type: none"> 1. Lack of resources for monitoring 2. How are KPIs measured: self-assessment is not acceptable when looking after such a valuable natural asset. 3. Lack of resources may result in stakeholders having low confidence in the interpretation of results. 4. Budget reductions in the order of 50% cannot but reduce the quality of services provided, regardless of the quality of prioritisation and streamlining by staff. The extent of Departmental budget reductions is evident through the manner in which some KPIs have been measured in the FMP, and the conclusions that are drawn from those measurements and assessments. 5. Variable implementation – insufficient resources committed by government and its agencies leading to a serious shortfall in achievements 6. Given community expectation for forest reserves, and Government commitment for tenure of NPs, it is disturbing that the need for management resources (addressing pests, disease, weeds, fire, controlled access) is not supported. 7. The audit indicates some restrictions to meeting management plan actions due to availability of resources. It raises the issue of attribution of impacts to climate change versus forestry activities. Where the case for attribution is not clear, further research should be undertaken 	<p>Numerous submissions identified concerns at the changes in resource availability during the first half of the FMP as reported in the draft review report. The Department advised through the draft report that the tight fiscal environment in 2014 and subsequent years resulted in the Department’s budget for coordinating the implementation of the plan, regulating the yield, delivering services and monitoring implementation declining by up to 50 per cent since 2014.</p> <p>As outlined in the draft report, the FMP requires sufficient resources to enable its implementation. The Commission has included additional content in the review report to emphasise its concerns on resourcing the implementation of the plan as follows:-</p> <p><i>‘While the key performance indicator results provided to the Commission do not include any measures of efficiency by which to monitor the relationship between the results delivered and the resources used to produce the result, it is clear that implementation of the FMP has been constrained. Implementation of the FMP requires adequate resources, however, resourcing is outside the scope of the plan and this review and is managed through ongoing government budget processes’. (see page xii)</i></p>
5, 7, 8, 10, 16, 26, 32, 38, 51	Performance indicators	<ol style="list-style-type: none"> 1. No clear targets, standardised methods, and species management priorities for TECs, wetlands, threatened flora and fauna required for FMP mid-term review. 2. Lacking supporting data from draft Regional Nature Conservation plans. 3. The information provided in the draft mid-term review is brief therefore limiting the opportunity to examine and discuss important factors. 4. Too many KPIs for an organisation to focus on. 	<p>Issues related to specific KPIs are addressed within this table as identified for each section. Broader issues related to the number and breadth of KPIs, relevance and outcome focus have been noted and will be considered in the continuous improvement of the KPIs for the next FMP.</p> <p>Technical terms used in the mid-term report are consistent with the meanings as defined in the Forest Management Plan.</p> <p>Through the mid-term review report the Commission has acknowledged limitations in the provision of information</p>

		<ol style="list-style-type: none"> 5. The Regional Conservation Plans themselves do not have performance targets. 6. The lack of effective linkage between the FMP and RCNPs demonstrates flawed nature of forest management in WA. 7. Need for improvements in performance measures should not delay or prevent the implementation of specific and immediate changes to burning and logging practices or improvements in hygiene and weed management. 8. We believe that the confined scope of the review cannot properly address the bigger and more important questions of the adequacy of the FMP in meeting its stated objectives. 9. KPIs not outcome focussed. 10. Where KPIs refer to definitions, those definitions should be made explicit and included in the text. 11. KPIs do not reflect the full value of the forest or a full range of forest resources (e.g. intrinsic values) 	<p>through subsidiary planning documents, in particular the Regional Nature Conservation Plans. Subsequently, appropriate recommendations have been included seeking to ensure that further information will be made available within 12-24 months of the release of the mid-term review of performance report.</p>
<p>16, 26, 29, 32, 49, 53</p>	<p>Application of precautionary principle</p>	<ol style="list-style-type: none"> 1. Unacceptable that FMP practices are allowed to continue without adequate science to inform activities to ensure ESFM. 2. Adoption of precautionary principle to create new reserves in order to protect specific areas of high rainfall, upland, Northern Jarrah forest from bauxite strip mining (a total area of 25,000 ha of Jarrah forest has been cleared and mined since 1963 and a subsequent area 4-5 times larger has been fragmented) – significant potential for further mine expansion. 3. Due to climate change, the likelihood that jarrah and karri forest logged now will be able to regrow as forest with similar biodiversity is low in those regions most affected by climate change. 4. Feasibility of continuation of two extensive land uses of timber extraction and bauxite mining (in the Perth to Collie corridor) which overlap with all other land uses, active threatening processes and climate change are producing at best forest which lacks the majesty of old growth jarrah forest, and at worst will veer towards a jarrah-marri woodland. 	<p>In developing the desired goals of the FMP2014-23, the former Conservation Commission adopted a precautionary approach as required under CALM Act s19(2)(b). At the time of developing the plan the Commission was particularly concerned with the vulnerability of forests to climate change. The effects of weed, pest and disease infestations and changes in weather patterns were assumed to continue during this period of the plan the State's south-west. Given current knowledge and uncertainties of the likely magnitude and result of changes to climate, it is still considered that the management activities within the plan encompass an appropriate range of precautionary actions.</p> <p>The Commission has noted the range of actions already implemented and acknowledges that for some field actions ongoing monitoring and evaluation of outcomes will be necessary to inform future adaptation strategies. In the review report, the Commission has recommended a greater consideration of data accumulation supporting biodiversity indicators to assist in assessing adaptive management outcomes. Further research and monitoring will be required on a prioritised basis to adapt to and mitigate the impacts of climate change.</p>

Ref Number	Theme	Comment	Response
Biological diversity (KPIs 1 – 5)			
7, 8, 12, 14, 16, 18, 21, 23, 32, 33, 41, 43, 49, 52, 53	Whole of forest condition	<ol style="list-style-type: none"> 1. Patterns of vegetation decline variable and appear to be related to terrain and landform – important to understand 2. What about impact of harvesting, roads, drying climate, per- and polyfluoroakyl substances (PFAS) ? 3. The review abdicates all responsibility for thinning of vegetation density and decreases in fauna claiming climate change as culprit rather than management actions 4. Evidence showing areas of the northern jarrah forest along its western edge declining (#15 p.51) 5. Research has shown that is not just climate change that can dry out a landscape, but also clearing and logging (References: Gale C.2006, Prof J Kirkpatrick, M A Andrich and J Imberger, Prof CI Macalpine) 6. MacFarlane et al (2010) showed that regrowth jarrah forests transpire up to 50% more than old growth jarrah forests (including those old growth not meeting new DBCA guidelines) 7. The 2011 Jarrah-Marri forest stand collapse event was greatly underestimated by the Commission's and DEC 2013 report at only 3000 ha; extensive Murdoch University research showed the extend to be approximately 16,500 ha (i.e. between 5 – 8 % of the western jarrah forest) 8. The wording of 'vegetation density' confuses the general reader with structural density of tree stems per hectare. It should be described as 'canopy density' to avoid confusion. 9. Rapid expansion of areas for future bauxite mining activities especially in response to the recently approval for the export of unprocessed bauxite means the Commission should ensure there is an adequate representation of reserves in high quality, high-rainfall areas of the northern jarrah forest. 10. More than half of the most affected areas are in conservation reserves. 11. Concerned that the major method used to assess changes in whole of forest health appears to be LANDSAT imagery with no evidence of supporting ground-truthed information. 12. The FMP should be able to provide both a whole-of-forest picture for biodiversity and ecosystem health, as well as 	<p>The submissions raise a number of points with key comments relating to the adequacy of the information provided for the review and the response recommendations and proposed Departmental actions.</p> <p>After noting the comments and the additional background, the recommendation for further information on the affected forest ecosystems was confirmed as adequate with only a minor change to recommendation 1 from the draft mid-term review.</p>

		<p>measure the performance of each area managed under different land uses.</p> <p>13. Areas of declining forest health do not appear to be equal in the north-eastern and lower rainfall parts of the forest with north-eastern aspects much more severely affected.</p> <p>14. The target should not just focus on 'healthy' ecosystems or define what 'healthy' means.</p> <p>15. What is the reason for the lack of gazettal of new reserves?</p>	
2, 6, 7, 12, 13, 16, 21, 22, 28, 32, 39, 49, 52, 53, 54	Threatened flora, fauna and ecological communities	<p>1. Concerns raised on high percentage of declining or unknown status of species and communities in regions indicating that the forest is not being managed properly for the long term.</p> <p>2. Scientific information shows that black cockatoos and western ringtail possums rely on more mature trees yet statement "there is no evidence to suggest timber harvesting has long term impacts on population viability" [NB: information source to support statement dates back to 1992].</p> <p>3. Further decline of our native forests since the last mid-term review 10 years ago – some protocols missing in the last FMP still missing in the current FMP</p> <p>4. Prime banksia woodland habitat for Carnaby's develops 20-29 years after a burn; in Gngangara over 60% of the woodlands have been burnt in the last 7 years. The remainder is estimated to be able to support 2726 Carnaby's which amounts to only 25-35% of the species reliant on the area (#16; Wafa Forest Science forum)</p> <p>5. The scarcity and on-going loss of nesting hollows is the principal driver of extinction for Baudin's cockatoo.</p> <p>6. Quokka and numbats have not even been mentioned in this review.</p> <p>7. More science needed on KPI 4 & 5</p> <p>8. Most threatened ecological communities listed are on the Swan Coastal Plain not in the forests. Should be mentioned in text.</p> <p>9. Further information regarding specific threats from logging, clearing and fire should be included in the final review document to properly cover the issues and provide for meaningful improvements to the FMP.</p> <p>10. Conduct an independent review of regionally significant vegetation outside of the formal conservation reserve system with a view to recommend HCV areas for inclusion in reserve</p>	<p>KPI 2</p> <p>Changes have been made to the review report to clarify that Table 2 contains TECs and PECs that have been identified as priorities for management (with noting for TECs also listed under the EPBC Act). The final report also includes a statement acknowledging the relationships between climate and other related impacts. The relevant recommendation has been reworded for clarity as follows:-</p> <p><i>Recommendation 3. That the measurement protocols for KPI 2 be reviewed by January 2020 to ensure sufficient detail at the FMP end of term review to determine whether the observed changes in condition have been adequately attributed and managed.</i></p> <p>KPI 3</p> <p>The draft Regional Nature Conservation Plan (DRNCP) for Swan references FMP KPI 3 and the measure, 'staying within 'Limits of Acceptable Change' within Ramsar framework'.</p> <p>The DRNCP for Warren region references a general requirement to meet FMP reporting requirements and states 'Wetland monitoring program data is comprehensively reported every two years internally and every three years to meet federal Ramsar requirements'.</p> <p>The DRCP for South-west references a general requirement to meet FMP reporting requirements and states that "wetland monitoring program data is comprehensively reported every two years internally and every 3-4 years to meet federal Ramsar requirements."</p> <p>The Commission noted the intent from the Department in its response to review the regional nature conservation plans thus informing amendments to the measurement protocols for Ramsar and nationally significant wetlands. Given the level of reporting under other terrestrial</p>

		<p>system.</p> <ol style="list-style-type: none"> 11. Studies indicate a long term impact on population viability of hollow dependent western ring tail possum (i.e. Wayne et al 2006, Wayne et al 2000) and to suggest otherwise is misleading i.e. mid-term review “there is no evidence to suggest timber harvesting has long term impacts on population viability” 12. Both Baudin’s cockatoo and the numbat were moved from Vulnerable to Endangered under the EPBC Act in February 2018 and the western ringtail possum was listed as Critically Endangered in May 2018. None of these species at increased risk of extinction is mentioned in the draft review. 13. As of 2017, we have 147 listed flora species and 120 threatened fauna. How will DBCA implement/continue to implement monitoring and surveys of threatened flora and fauna populations and review the draft RCNPs if there are no performance targets available? 14. An 2017 assessment of condition of the Peel-Yalgorup Ramsar site for Limits of Acceptable Change (LAC) found that 19 were met, 22 not met and 18 had insufficient data to assess – this differs from the mid-term report’s assessment that 11 of the 37 LACs are regularly exceeded (noting also the use of the terminology ‘regular’ as few LACs are regularly monitored). 15. Commission should re-assess KPI 3 performance in the context of the recommendations of the 2006 Auditor General’s Report on Management of Ramsar Wetlands in WA and request the department of clarify the involvement of non-government and community groups in the management of Ramsar wetlands. 16. Will the Commission make all RNCPs publicly available? 	<p>management planning and the Ramsar convention, this Departmental response was considered adequate and the draft recommendation for this section was removed with the following words included into the report: “a <i>continued collaborative approach with stakeholders who are actively engaged in the management of these wetlands</i>”.</p> <p>KPI 4</p> <p>To enable the Commission to gauge the effectiveness of management response to reported declines in condition further information on the cause of the decline (the review provides a general statement that “<i>the changes in population size can be the result of a range of factors</i>”) has been included in a more specific Recommendation 4.</p> <p>Amended recommendation 4:</p> <p><i>For the flora species detailed in this review as critically endangered in 2017 with a recorded decrease in population size, that the Department provides further information to the Commission detailing measurement and analysis of changes in population number and/or size as a function of time by July 2021.</i></p> <p>KPI 5</p> <p>In relation to the points raised on the reference to the studies by Wayne related to the Kingston trials and the comments on the removal of mature trees, it was decided to modify the report wording and references to be more reflective of current silvicultural practices and the wording of the FMP itself as follows</p> <p><i>‘Long-term research and monitoring, including that conducted through the Department’s major monitoring project, FORESTCHECK, show that forest biodiversity is resilient to disturbance from silvicultural operations... FORESTCHECK monitoring showed that in the jarrah forest ‘for all species groups studied’ (vascular flora, macrofungi, lichens bryophytes mosses, macroinvertebrates birds and terrestrial vertebrates) ‘the imprint of harvesting 40 or more years earlier on species composition had become indistinguishable from that on grids never harvested’ (Abbott and Williams 2011).’</i></p> <p>There were two fauna species in particular identified in the comments which changed conservation category (Baudins cockatoo – transferred from Vulnerable to Endangered; and the numbat shifted from transferred from Vulnerable to Endangered) but were not included in the draft review reporting under this KPI.</p>
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			<p>In relation to the general points raised relating to a perceived inadequacy in the recommendations, it is recommended to refine the recommendations to provide more specific requirements.</p> <p>Amended recommendation 5:</p> <p><i>“That the Department provides further information to the Commission by July 2021 on the measurement and analysis of change in population number and/or size as a function of time for key threatened fauna identified in the measurement protocol for KPI 5 including Carnabys cockatoo, red-tailed black cockatoo, Baudin’s cockatoo, quenda, quokka, brushtail possum, western ringtail possum, chuditch, woylie, numbat, brush-tailed phascogale, Geocrinia frogs, and sunset frog.”</i></p>
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Ref Number	Theme	Comment	Response
Ecosystem health and vitality (KPIs 6 – 8)			
7, 13, 16, 21, 24, 25, 27, 32, 45, 46, 49, 50, 52, 53, 57	Implications of fire management	<ol style="list-style-type: none"> 1. KPI 6 – more informative if figure shows distribution of time since fire distinguished between bushfire and prescribed burns. 2. KPI 7 – superficial as it does not provide useful information around objectives, success criteria, and how outcomes of burning were monitored. Should be expanded to provide more detail on the actual success criteria achieved/not achieved within the respective Regional Fire Management Plans. 3. DBCA has not completed Regional Fire Management Plans to guide decision making and operations. 4. The KPI framework does not address the potential for forest fire (planned and unplanned) to impact on biodiversity or forest health. 5. Implications of changed seasonality of burns to spring rather than autumn 6. The target distribution of fire age is a function of inputs relating to the life history attributes of native vegetation. The reference cited for this is 17 years old (McCarthy et al 2001) 7. Lack of data relating to prescribed burning, evidence about survival of species under different fire regimes is at odds with the procedures and KPIs outlined in the FMP. 8. Evaluate the merits of more risk-based targets and KPIs for prescribed burns as Victoria has done rather than ones based on area of land burnt. 9. Application of precautionary approach – involving varied inter-fire intervals, not just a mosaic based on geographical variability while other burn parameters remain constant. 10. Fuel around pine plantations should be no older than 5 years 11. Conduct an assessment via an independent expert panel on the impacts of the current prescribed burning program on biodiversity and climate change. 12. The ecological consequences of the fire management program with more regular burns has been overlooked in this draft review. 13. All three draft regional nature conservation plans list inappropriate fire regimes as a threat to species and their 	<p>Given the uncertainty around the losses in vegetation density, it is considered that more information is required to enable the Commission to form a view on the implementation of this aspect of the FMP. As such Recommendation 8 has been altered to request more specific information on each LMU (consistent with the current measurement protocols for KPI 8) rather than calling for a general review of the measurement protocol.</p> <p>Amended recommendation 6: <i>“That the Department report to the Commission by July 2019 on the conformance to the theoretical distribution of time since fire for each LMU.”</i></p> <p>In responding to this submission, it was noted that the information presented in the draft report represents only a single year in the reporting period and of that year approximately only one third had information reported against the success criteria. However, the KPI was reported as fully achieved with high confidence. As such the level of confidence in the allocated score has been reviewed from High to Medium to better reflect the small sample size presented.</p>

		<p>habitat.</p> <p>14. Risk mitigation of bushfires to human populations and assets can be assisted by Mechanical Fuel Reduction.</p>	
7, 16, 23, 41, 49	Weed management	<ol style="list-style-type: none"> 1. KPI 8 performance is based on an estimated 36 sites where long term management actions were applied, not an extensive assessment of the hundreds of reserves and thousands of public conservation estate in the FMP area – need to re-assess KPI 8 using a credible methodology. 2. KPI 8 – showing a bias towards locations on Swan Coastal plain rather than main forest zone (i.e. does it reflect weeds are not a major problem across forest landscapes?) 3. Review fails to mention substantial weed burden present in softwood plantations (e.g. blackberry); there is little to no effort to manage weeds in plantations. 4. Develop clear management principles to ensure that dieback and weeds are not spread during the process of ecological thinning, should it be undertaken. 5. No evidence is provided to support what intensity of investigations was used to identify and record new infestations, or measure changes in the distributions of infestations. 	<p>Submissions have reinforced that limited information is provided on the process and outcomes of the prioritisation of weed management as it relates to the service plans.</p> <p>The KPI protocols detail the required data and reporting frequency for weeds and pests and the recommendation has been altered to reflect the requirements of the protocol and for clarity.</p> <p>Amended recommendation 8:</p> <p><i>“That the Department reviews the measurement protocols and prioritisation process for weeds and pests by January 2020; and provides further information to the Commission by January 2021 detailing the distribution or density of number and population density of on priority pests and weeds in the FMP area.”</i></p>
14, 32, 50, 54	Soil damage and pathogens	<ol style="list-style-type: none"> 1. There is no mention of soil damage other than caused by vehicles, for example, exposure to erosion following clear-fall logging. 2. KPI 9 should include soil damage resulting from fire management in order to provide for the measurement of soil carbon and nutrient losses as well as erosion. 3. Complete removal of the topsoil for 100% of a forestry area would not trigger an adverse KPI assessment because ‘damage’ refers to mixing of the soil horizons. 4. Roading used in logging operations facilitates transport of sedimentary run off from soils and causes salinity contamination of water supplies in dams. 5. <i>Phytophthora</i> species other than <i>P. cinnamomi</i> increasing concern i.e. symptomology different with individual plants killed and identifying these is more difficult than ‘dieback fronts’ (#14 p.52). 6. KPI 8 - Recommendation could include “working with relevant NRMs and community groups to ensure Green card training (and other relevant <i>Phytophthora</i> dieback management activities) is more widely implemented across the community”. #15 p.53 	<p>Soil compaction is factored into the soil assessments by default based on research trials. Research into changes in soil bulk density resulting from vehicle movement showed that significant soil compaction occurs on the primary and secondary extraction tracks. The extent of this compaction is not always visible from the surface. Based on these results, default disturbance categories relating to the order or hierarchy of the extraction track have been determined. The Commission is satisfied with the number of surveys undertaken and the commitments to continuously improving processes to ensure that the targets for this KPI can be met in the future. The point raised in relation to increased traffic in relation to extraction of other bole volume was identified through Departmental monitoring as follows: <i>“The main contributing factors where limits were exceeded were that the volume of wood removed including increased residue and other bole volume required significant vehicle traffic”</i>, and will be noted by the Commission for future monitoring and planning.</p>

Ref Number	Theme	Comment	Response
Soil and water (KPIs 9 - 11)			
3, 4, 7, 14, 16, 20, 21, 22, 23, 32, 33, 42, 43, 44, 46, 50, 52, 54	Ecological thinning	<ol style="list-style-type: none"> 1. The inability to utilise other bole volumes in jarrah forest is inhibiting the attainment of forest health and productive capacity objectives. 2. Potential for silvicultural treatment to increase water yield from catchments in higher rainfall parts in State forest needs more attention (see also Croton et al (2014)). 3. Silviculture to enhance streamflow and groundwater in economic efficient manner where sale of wood products generated by thinning can offset the cost of treatment. 4. The FPC needs to undertake trials between now and 2024. 5. Past research brings into question the broader effectiveness of silviculture treatments as a way to improve stream conditions. 6. No thinning until results of small long-term trials (10 years) in regrowth jarrah forest run by independent forest ecologists with community involvement and EPA assessment. 7. Support innovative intervention management especially in more eastern jarrah types, and recovery of forest products where feasible. 8. To allow strong trees to grow, the Jarrah-Marri forest will not only sequester more carbon but also greatly improve the resource efficiency i.e. if the size in sawlogs can be doubled by 2035 the timber that would be produced would be quadrupled. 9. Thinning for ecosystem health and water production. 10. Thinning increases the spread and intensity of dieback in infested forest and causes long-lasting ecological harmful soil compaction. 11. Silviculture treatment in regrowth forests vital for forest health in drying climate and maintaining productivity. 12. Concern about previously logged forests prior to thinning practices (stem density too high in conservation estate). 13. Need to acknowledge thinning as a biodiversity protection and enhancement tool 	<p>Historically, the main risk to water quality has been from groundwater rise dissolving and transporting salt stored in the unsaturated zone of the soil profile. As a result of the decline in groundwater levels over recent decades, in this plan, the phased harvesting requirement no longer applies in the Department's Swan and South West regions and parts of the Warren Region.</p> <p>To ensure timber harvesting and associated forest management activities do not result in unacceptable changes to water quality, rivers and streams are included in the informal reserves system. The impacts of fire on water quality in catchments is not specifically reported under the performance measures for this KPI but will be considered for future planning.</p>

		<p>14. Access state and federal research grants to further study ecological thinning</p> <p>15. It is particularly disturbing when areas with insufficient management resources applied are often past managed forest regrowth areas, including timber production, that are being allowed to decline in condition.</p>	
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Ref Number	Theme	Comment	Response
Climate change and carbon cycles (KPIs 12 - 14)			
7, 10, 12, 24, 32, 33, 38, 40, 46, 52, 53	Increase knowledge of carbon stocks	<ol style="list-style-type: none"> 1. Carbon storage understanding essential for limiting global warming. 2. Review speaks of climate change contributing to forest degradation yet fails to recognise the importance of forests in combatting climate change. 3. The department should ensure that carbon stores recognise and account for the carbon that is stored in the build environment from the use of forest products (recognised in Federal Government approved carbon model FullCAM – eligible for trading). 4. A 2012 Australian National University assessment of carbon pollution from forest management in WA suggested that logging of FMP forests in WA results in a net carbon pollution of between 1.8 and 2.9 million tons of CO2 per year. 5. Will the other forms of forest measurements, including woody biomass, provide adequate information to address the original objectives of the FMP. 	Noted. The Commission considers the current FMP management activities and review recommendations sufficient to cover the issues identified through the public submissions in relation to this item at this time.
13, 21, 32, 38, 40, 46, 49, 52	Adaptive response to climate change	<ol style="list-style-type: none"> 1. Macfarlane <i>et. al.</i> showed in 2010 that regrowth jarrah forests transpire up to 50 per cent more than old growth jarrah forests. 2. Old forests store more carbon and have greater climate benefits than regrowth forests (various papers quoted in #13 p.5). 3. Recommended that there be no logging or clearing of mature forests in areas where rainfall is below, or projected to soon be below, the annual amount required for the maintenance of the ecosystem (minimum 600mm for jarrah and 1000mm isohyet for karri) and sustainable yield re-calculated accordingly. 4. There is ample scientific evidence demonstrating that logging results in a significant net loss (emission) of carbon from forests. As such, and according to the precautionary principle, the lack of monitoring and the failure to meet KPI 14 should not delay management changes to protect natural carbon assets, through reducing and ceasing logging activities. 5. DWER considers the use of the wetter historical rainfall record is inappropriate for predictive hydrological analysis and as an indicator for the future (see "Selection of future climate 	Noted. The Commission considers the current FMP management activities and review recommendations sufficient to cover the issues identified through the public submissions in relation to this item at this time.

		<p>projections for Western Australia”).</p> <p>6. Adaptive responses to climate change should be developed together and reviewed under the guidance of a systematic framework for developing a climate adaptation planning responsethat considers the full range of climate risks, and therefore their respective priority.</p> <p>7. The Commission should advise the Minister for Environment to commit the state government to a full review of all government statutory agreements, contracts and policies related to use and management of the south-west forest in light of climate change compounding land use pressure and threatening processes.</p> <p>8. There is no ForestCheck program for Karri forest.</p>	
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Ref Number	Theme	Comment	Response
Productive capacity (KPIs 15 – 19)			
2, 21, 25, 33	KPI	<ol style="list-style-type: none"> 1. No follow up actions for KPI 17 even though rated as non-achievement. 2. No KPI to measure the value of new forest areas and their ecosystem function. 3. KPI 19 just looks at ability of Government to meet contract obligations – replace with a KPI that forecasts the sustainable level of pine sawlog production. 4. KPIs do not adequately address long-term nature of investment in the forest products sector (e.g. a new KPI indicating a rolling 30 year forecast of total pine sawlog availability from all sources). 5. 90% of the plantation losses to bushfire come from fires originating from outside of the plantation. It would be beneficial for investors' confidence to have a KPI that specifically reports upon the age of forest fuels adjacent to public and private plantations, and develops a staged plan to reduce the average fuel age over a short period of time. 	Noted. The Commission considers the current FMP management activities and review recommendations sufficient to cover the issues identified through the public submissions in relation to this item.
3, 7, 20, 25, 33, 42, 44, 50, 55	Other bole volume	<ol style="list-style-type: none"> 1. Markets need to be found for low grade timber products for financial sustainability even if need be overseas. 2. Market conditions affecting opportunity to utilise products from timber harvesting 3. Industry requires long term security for investment and markets 4. There is no lack of markets for other bole volume. It is being blocked by a lack of political willpower by the WA government. 5. Making specific mention of markets, and explaining the holistic benefits of full utilisation of other bole volume, will improve social licence for industry and ultimately benefit forest health. 6. Alcoa is permitted to sell unprocessed bauxite sourced from high quality jarrah forest to overseas markets, whilst the FPC is unable or not permitted to sell low grade jarrah and marri log timber from the salvage harvesting of forest prior to the bauxite mining to overseas markets. 	Noted. The Commission considers the current FMP management activities and review recommendations sufficient to cover the issues identified through the public submissions in relation to this item at this time.

		7. The biomass market for energy production already exists and a delay in the decision if other bole volume can be marketed as Biomass for Energy production has the potential to damage the market.	
6, 32, 46, 52	Cumulative impact of prescribed burning, logging and mining	<ol style="list-style-type: none"> 1. Impacting all aspects of current and potential future honey production areas (e.g. it takes more than 5 years for Marri tree from time of burn to recover for first flowering to product nectar). Consideration inadequate in current plan. 2. Clear-felling karri and intensive logging of jarrah forests has multiple negative impacts for water, climate, wildlife and industries other than logging (such as honey production). 	Noted. The Commission considers the current FMP management activities and review recommendations sufficient to cover the issues identified through the public submissions in relation to this item at this time.
7, 16, 20, 22, 25, 32, 33, 42, 46, 55, 57	Plantations	<ol style="list-style-type: none"> 1. Action needed to reduce loss of plantation from fire and drought 2. Increase the area of both native forests and plantations. 3. Continued loss of plantation area will lead to significant and serious implications of area reductions into the future 4. Rogue radiata in State forests (i.e. weed?) 5. Introduce Canary Island Pine (<i>Pinus canariensis</i>) – adapted to fire, low rainfall requirement (>200mm p.a.) and Black Cockatoos eat the seeds 6. The ability to sustainably supply softwood production contracts depends on all areas of plantations (including sharehold and freehold) not just in the FMP area and should therefore be reported annually. 7. The Gnangara mound classification as a plantation needs to be updated reducing the plantation estate by 6300 ha 	Noted. The Commission considers the current FMP management activities and review recommendations sufficient to cover the issues identified through the public submissions in relation to this item at this time.
7, 25	Bauxite mining	<ol style="list-style-type: none"> 1. Identify areas of high quality forest within bauxite mining leases covering the northern jarrah forest to seek exclusion of mining. 2. Give up trying to rehabilitate bauxite mined jarrah forest and have mining companies replant softwood plantations. 	Noted. The Commission considers the current FMP management activities and review recommendations sufficient to cover the issues identified through the public submissions in relation to this item at this time.
32, 42	General	<ol style="list-style-type: none"> 1. Gap creation should be phased out as causing too much loss of structural resilience. 2. Compliance with biodiversity conservation guidelines, such as informal reserves and habitat trees, should be included in reporting on these KPIs. 3. Where applicable, the mid-term review should specify that the Department and the FPC should work collaboratively with industry 	Noted. The Commission considers the current FMP management activities and review recommendations sufficient to cover the issues identified through the public submissions in relation to this item at this time.

		<p>4. Commission commentary regarding:</p> <ul style="list-style-type: none">a. KPI15 should be expanded to explain the impacts of loss of net area of forested land, in particular the loss of available State forest for timber production.b. KPI16 to explain why the FMP average allowable cut is practically unachievablec. KPI17 to explain the current barriers to timely thinning of regenerating native forest and integration of thinning with current operations.d. KPI19 to explain the impact on the declining plantation resource estate and predicted shortfalls.	
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Ref Number	Theme	Comment	Response
Heritage (KPI 20)			
7, 21, 24, 36, 46, 56	Traditional fire management knowledge and skills	1. Engagement of Noongar people to learn about and apply traditional fire management activities.	Noted. The Commission considers the current FMP management activities and review recommendations sufficient to cover the issues identified through the public submissions in relation to this item at this time.

Ref Number	Theme	Comment	Response
Socio-economic benefits (KPIs 21 -23)			
6, 13, 16, 21, 24, 30, 49, 52, 56	Insufficient consideration of sustainable forest industries such as apiary and tourism	<ol style="list-style-type: none"> 1. The FMP does not adequately consider the socio-economic benefits of the apiary industry and tourism (e.g. honey and associated products value \$30 – 50 Million, pollination \$1.2 billion) 2. Potential to support more sustainable forest products such as carbon credits, honey, tourism, sport/recreation, seed collection, oxygen, rainfall and habitat. 3. Socio-economic losses that results from native forest logging, quantified in terms of carbon values and sustainable forest-based enterprises that lose access to forests after and during logging should be given full consideration in this section of the review. 4. Concern of degradation of natural areas from extensive bauxite mining impacting social values i.e. recreation and amenity 	<p>A number of submissions made reference to KPI 21 on the social and economic benefits of the timber industry and contend that the economic benefits of other forest produce like honey and the economics of co-existing forest uses such as recreation/tourism are not included in the relevant KPI.</p> <p>The primary objective of the review is the extent to which management of land to which the plan applies has been undertaken in accordance with the plan and KPI 21 reporting does not require equivalent reporting other forest produce including public firewood, burls, craftwood, wildflowers and seeds and honey.</p> <p>The Commission considers the current FMP management activities and review recommendations sufficient to cover the issues identified through the public submissions in relation to this item at this time.</p>
12, 42, 46, 52	FMP does not consider benefits adequately	<ol style="list-style-type: none"> 1. No quantification of long term benefits of old growth forests rather focus on short-term economic benefits of timber products 2. Review should identify at least some of industry's contribution to society beyond employment. 3. Conflict between sectors erodes the 'social licence' – Commission needs to acknowledge the importance of risks in active forest management essential for forest ecosystem health. 4. Native forest timber harvesting's contribution to social and economic benefits is far less than that of plantation forestry (total value GRP of \$635M: \$104M native forests, \$274 softwood plantations, \$265M hardwood plantations) – the Commission should acknowledge that. 	
22, 23, 46	Regional processing facilities and value adding	<ol style="list-style-type: none"> 1. Foster regional processing and value adding 2. The proposed Integrated Timber Processing proposed by the FPC makes structural restoration of a healthy dominant canopy feasible, whilst continuing to produce sawn Jarrah timber 	<p>Noted. The Commission considers the current FMP management activities and review recommendations sufficient to cover the issues identified through the public submissions in relation to this item at this time.</p>

22, 42, 46, 55	Short-term resource supply security	<ol style="list-style-type: none"> 1. Industry remains largely unsecured leading into the next [timber supply] contract period hampering much needed new investment 2. As harvest and haulage contracts are set to expire in 2023, companies are hesitating to invest and banks are hesitating to offer loans. 3. Suggesting that the next FMP be a rolling one with complex and thorough sustained yield calculations projecting many decades ahead, to 2070. 	Noted. The Commission considers the current FMP management activities and review recommendations sufficient to cover the issues identified through the public submissions in relation to this item at this time.
40	Strategic Road Network	<ol style="list-style-type: none"> 1. FPC's reporting to DWER indicates that there has been a net decrease in road area (i.e. more road closures than new forestry access roads opening). The draft review should provide more details to highlight the benefits of these road network activities. 	Out of scope - noted.

Ref Number	Theme	Comment	Response
Plan implementation and management (KPI 24)			
2, 12, 28, 32, 38, 42, 49, 52	Adequacy of management system	<ol style="list-style-type: none"> 1. Concern raised that there are no performance targets set for three of the four KPIs (i.e. TECs, flora and fauna) – challenges adequacy of management system in place 2. Failure to provide relevant information through regional nature conservation plans or regional fire management plans 3. Process for carrying out mid-term review has been seriously hamstrung by a lack or paucity of data 4. The FMP itself must be considered the central element of the institutional framework and the reporting against the KPI is therefore misleading. 5. The FMP has failed to satisfy the CALM Act principle of achieving optimum yield in production by (i) restricting production to include only timber and pulp, and (ii) failing to undertake a comprehensive assessment of all possible forest product utilisation options in order to identify the optimal option. 6. Require a rolling FMP which will improve resource security for industry and allow for improved silvicultural outcomes for WA's forests. 7. Forest managers and contractors only have to 'have regard' to FMP guidelines – not legally binding 	<p>Some submissions highlighted an apparent inconsistency in the level of achievement attributed to KPI 24 (Extent to which the institutional framework supports the conservation and sustainable management of forests) or more particularly 24.1 <i>Guidance documents to be prepared and/or reviewed as required during the period of the plan</i>. The Commission has noted comments from the review submissions in relation to particular FMP supporting documents and procedures, such as the 'Procedure for the assessment, identification and demarcation of old-growth forest' and the Regional Nature Conservation Plans. Consistent with its assessment and auditing function the Commission has scheduled an assessment of the implementation of the <i>Procedure for the assessment, identification and demarcation of old-growth forest</i> for reporting by 31 January 2020.</p> <p>The Regional Nature Conservation Plans are currently under review by the Department. The Commission acknowledges that key information relating to the measurement of KPIs via the Nature Conservation Service Plans which explicitly reference KPIs 1-5 and KPI 8, was not readily available at the time of the review requiring consideration of relevant and appropriate surrogate measures. Although these surrogate measures did in many instances provide an indication of the status of the performance indicator, the lack of data made it difficult to draw conclusions with confidence. However, the relevant KPI protocol (below) stipulates that the required documents to satisfy this KPI are those listed in Appendix 5 of the FMP which does not include reference to the Regional Nature Conservation Service Plans.</p> <p>In reflecting on the intent of this KPI it is noted that the measures for this KPI are output based and provide limited information to determine management effectiveness. Alternate performance measures for this KPI will be considered for future planning.</p>

7, 52, 56	Scientific knowledge	<ol style="list-style-type: none"> 1. Limited output of published scientific papers on productive capacity, climate change and carbon cycles reflects limited scope of implementation. 2. Knowledge gained from forest management should be communicated to community members – there have been few if any key education awareness and extension programs for the public to attend. 	The Commission considers the current FMP management activities and review recommendations sufficient to cover the issues identified through the public submissions in relation to this item at this time.
10, 24, 32	Independence	<ol style="list-style-type: none"> 1. Assessments should be independent of DBCA and FPC 2. Throughout value processing I would have liked to see more weight given to scientists who are focussed on complex ecological consequences of past practices and who have independent practices and guidance to offer. 3. Commission take carriage of the development of an integrated, properly resourced data collection and reporting system. 4. Commission to ensure that progress reports for KPIs not achieved that are reported annually be made public. 5. The Commission should make a recommendation that appropriate funding be provided so that WA's unique and threatened biodiversity can be conserved and protected. 	Noted. The Commission considers the current FMP management activities and review recommendations sufficient to cover the issues identified through the public submissions in relation to this item at this time.
23, 46	Forest Products Commission's Act	<ol style="list-style-type: none"> 1. Requires all wood contracts to be profitable – some activities such as mechanical fuel reduction activities may only break even at best. 2. The definition of forest products (s4) excludes any reference to carbon. 	Out of scope – noted.

APPENDIX A - Modified wording from 86 of the proforma submissions.

APPENDIX B - A summary of the 32 online responses to the questionnaire