

Special Audit: Assessment of VicForests' Harvesting Activities Against the Allocation Order

Timber Harvesting Compliance Unit,
Office of the Conservation Regulator



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Acknowledgment

We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, their unique ability to care for Country and deep spiritual connection to it. We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices.

We are committed to genuinely partner, and meaningfully engage, with Victoria's Traditional Owners and Aboriginal communities to support the protection of Country, the maintenance of spiritual and cultural practices and their broader aspirations in the 21st century and beyond.



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Executive Summary

The Office of the Conservation Regulator (OCR) was established by the Department of Environment, Land, Water and Planning (DELWP) early in 2019 following an Independent Review of Timber Harvesting Regulation in Victoria's public native forests (The Review).

The OCR Timber Harvesting Compliance Unit undertook a special audit to assess allegations made by the ABC on 20 November 2018 regarding VicForests' timber harvesting activities. The special audit provided an important opportunity to identify improvements to information and procedures to ensure compliance with the regulatory framework for timber allocation.

The special audit had the following objectives:

1. Analyse all coupes on the Approved Timber Release Plan 2017 (Victorian Government Gazette 2017) against the Allocation (Amendment) Order 2014 (Victorian Government Gazette, 2014)
2. Identify any coupes (or portions of coupes) on the Approved Timber Release Plan 2017 (Victorian Government Gazette 2017) whose boundaries exist beyond the Allocation (Amendment) Order 2014
3. Determine the extent of timber harvesting which has occurred outside the area the subject of the Allocation (Amendment) Order 2014
4. Determine if timber harvesting activities are scheduled for any coupes (to 30 June 2019) which are identified to be outside the area the subject of the Allocation (Amendment) Order 2014 (wholly or partially)
5. Produce and make publicly available a report regarding the assessment of VicForests' timber harvesting activities against the Allocation (Amendment) Order 2014.

Timber resources are vested in VicForests for the purposes of timber harvesting and related activities by means of an Allocation Order. Relevant to the time period of the special audit was the Allocation Order of Government Gazette S343 (Victorian Government Gazette 2013), and the Allocation (Amendment) Order 2014 (Victorian Government Gazette, 2014). The map associated with both Allocation Orders ('Allocation Order Map') was the legal mechanism for determining the extent and location of where harvesting could occur for the entirety of this period.

The Allocation Order Map was produced at a scale and level of detail that meant the special audit could not accurately determine whether VicForests had planned or harvested coupes on the Approved Timber Release Plan 2017 that were outside of the extent and location where timber harvesting could legally occur. This is consistent with previous legal advice that the Allocation Order Map was not suitable for criminal prosecution of any unauthorised timber harvesting operations. For this reason, a more detailed spatial dataset, known as the 'Working Forest Areas' dataset [WFA, (formally named wfa_20131001)] was obtained from the Department of Jobs, Precincts and Regions (DJPR) as being the best spatial representation of the area of State Forest subject to the Allocation Order 2013 and the Allocation (Amendment) Order 2014. While not legally enforceable, the WFA was used by OCR in the special audit to support the assessment of VicForests' timber harvesting activities and alignment with the Allocation (Amendment) Order 2014 (Victorian Government Gazette, 2014).

Amendments to the Allocation Order

It is noted that following the commencement of the special audit, amendments to the Allocation Order and the Timber Release Plan were released on 24 April 2019. The Allocation (Amendment) Order 2019 (Victorian Government Gazette 2019a) and the Approved Timber Release Plan 2019 (Victorian Government Gazette 2019a) are not within scope for the special audit.

The results indicate that:

- Of the 3,289 coupes and other features such as planned road and track works featured in the Approved Timber Release Plan 2017, 201 coupes were found to be wholly or partially outside the WFA.
- Nearly 90 per cent (175) of all coupes found to be wholly or partially outside the WFA were not identified to be harvested or scheduled for harvesting.

- Five coupes were found to be at least 25% outside the WFA as scheduled for harvesting before the end of the 2018/19 financial year.
- In total, 112.4 ha was identified to have been harvested outside of the WFA, with three coupes accounting for 59.1 ha of this figure.

While OCR found harvesting outside the WFA, previous legal advice is that the WFA cannot be relied on for criminal prosecution of unauthorised timber harvesting operations.

In April 2019, the Victorian Government Gazetted Allocation (Amendment) Order 2019 (Victorian Government Gazette 2019a). This Allocation Order area is now clearly defined by the spatial data layer known as 'VicForests_Allocation_Apr2019'. These April 2019 changes to the Allocation Order incorporated recommendations from OCR to improve enforceability through the referencing of the spatial data used to define the Allocated area. The incorporation of this spatial data layer provides the legal mechanism with the necessary spatial detail to be practically applied in the field and during coupe planning, as well as for the purposes of compliance and enforcement.

Recommendations arising from this audit focus on improving the robustness of processes and systems to complement the changes made to the 2019 Allocation Order and will maximise the potential for effective regulation. They include:

- Ensuring robustness of spatial data that represents the Allocation Order and Timber Release Plan.
- Timely biannual updates of timber harvesting spatial data.
- Annual amendment and reconciliation between Allocation Order and key data sets.

As a result of the special audit, the OCR will also undertake a biannual compliance audit of VicForests' Timber Release Plan and timber harvesting activities, with respect to the Allocation Order.

Background

On Tuesday, 20 November 2018, ABC News published an online article '*Australia's endangered forests are being 'stolen' and sold in hardware and office supplies*', regarding the alleged illegal logging or planned illegal logging of thousands of hectares of State Forest in Victoria (Slezak, 2018). The topic also featured on ABC's 7:30 Report the following night (Government-owned logging company accused of illegally logging State Forest 2018). Briefly, the allegations stated that VicForests, the Victorian State-owned business responsible for the harvest, sale and regeneration of Victoria's State Forests, was harvesting, or planning to harvest, timber resources outside the area it had been allocated (known as the Allocation area, defined in the Allocation Order (Amendment) 2014). The ABC report also stated that it had identified 17 coupes that had either been logged or were planned to be logged, which were completely outside the area subject to the Allocation Order. Another 25 coupes were alleged to be at least 90% outside the area subject to the Allocation Order.

The OCR's Timber Harvesting Compliance Unit undertook a special audit to investigate these allegations and assess VicForests' timber harvesting activities (both planned and harvested) against the Allocation (Amendment) Order 2014 area, the area allocated to VicForests for the purpose of timber harvesting.

The OCR has regulatory responsibility for protecting the natural and heritage values of Victoria's environment, including setting standards, monitoring compliance and enforcing the law. Further information on the OCR's regulatory responsibilities is available at: <https://www2.delwp.vic.gov.au/our-department/regulator>. The OCR is the regulator of State Forests and its resources. It undertakes both regular activities to monitor compliance and specific activities to determine compliance with the regulations.

The DJPR is responsible for the development of forest industries policy, and the management of timber resources including the establishment of an audit against the Allocation Order.

VicForests is responsible for undertaking the sale and supply of timber resources in Victoria State Forests, and related management activities, as agreed by the Treasurer and the Minister for Agriculture, on a commercial basis. Furthermore, VicForests must operate in a framework consistent with Victoria Government policies and priorities and in compliance with the laws relating to timber harvesting.

The special audit had the following objectives:

1. Analyse all coupes on the Approved Timber Release Plan 2017 (Victorian Government Gazette 2017) against the Allocation (Amendment) Order 2014 (Victorian Government Gazette, 2014)
2. Identify any coupes (or portions of coupes) on the Approved Timber Release Plan 2017 (Victorian Government Gazette 2017) whose boundaries exist beyond the Allocation (Amendment) Order 2014
3. Determine the extent of timber harvesting which has occurred outside the area the subject of the Allocation (Amendment) Order 2014
4. Determine if timber harvesting activities are scheduled for any coupes (to 30 June 2019) which are identified to be outside the area the subject of the Allocation (Amendment) Order 2014 (wholly or partially)
5. Produce and make publicly available a report regarding the special audit of assessment of VicForests' timber harvesting activities against the area the subject of the Allocation (Amendment) Order 2014.

Allocation of State Forest Timber Resources

In Eastern Victoria, VicForests is granted access to certain timber resources by means of an Allocation Order. Under Part 3 (section 13) of the *Sustainable Forests (Timber) Act 2004*, the Minister for Agriculture has authority to make an Allocation Order to VicForests, thereby allocating the timber resource in specified areas of State Forest to VicForests for purposes of harvesting and selling, or harvesting or selling timber resources (Victorian Government Gazette 2013).

Upon publication of an Allocation Order in the Victorian Government Gazette, the allocated timber resource is vested to VicForests for the above-mentioned purposes. The Allocation Order relevant to this special audit was published in the Victorian Government Gazette on Tuesday 1 October 2013 (Victorian Government

Gazette 2013), with amendments made on 30 October 2014 (Victorian Government Gazette 2014). The extent and location of allocated forests are depicted in Figure 1, the map featured in Gazette S343 (Victorian Government Gazette 2013) and referred to as the Allocation Order Map.

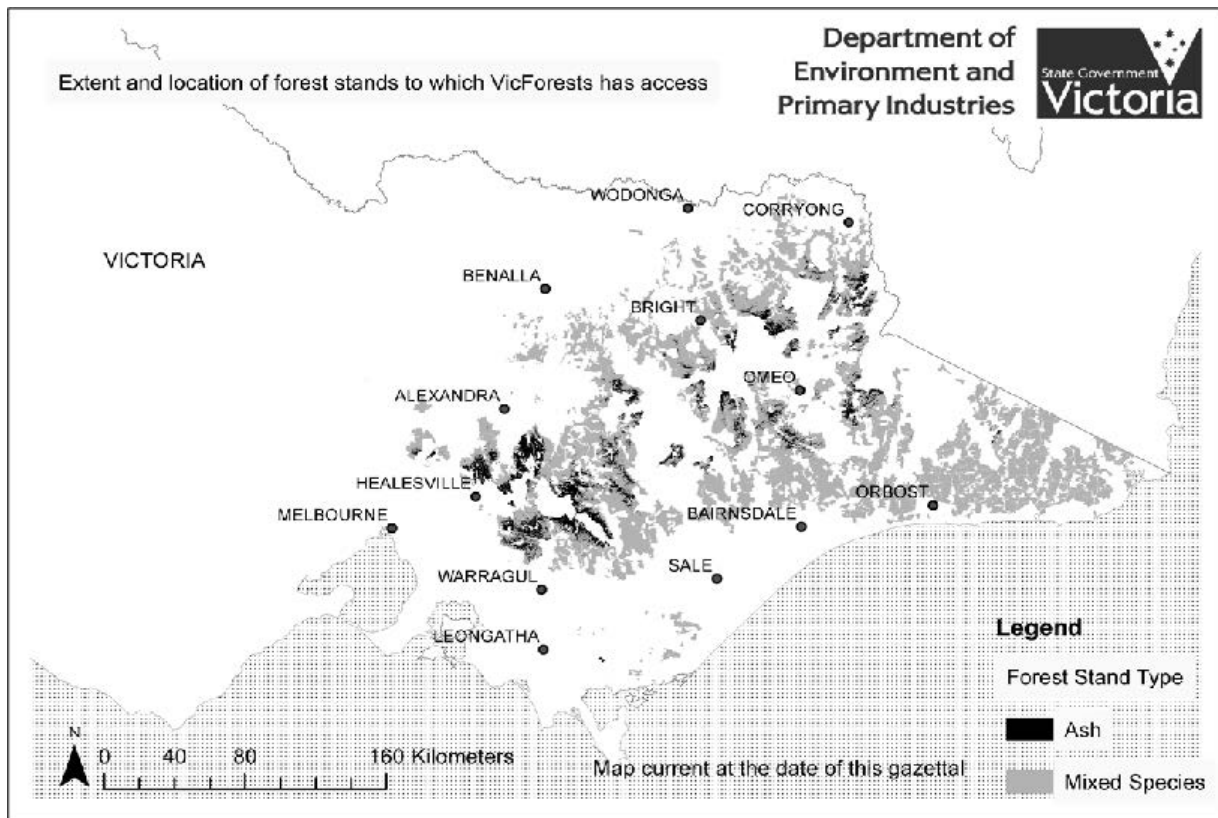


Figure 1. The Allocation Order Map, as per *Government Gazette S343* (Victorian Government Gazette 2013)

Under Part 5 (section 37) of the *Sustainable Forests (Timber) Act 2004*, VicForests must prepare a plan, known as the Timber Release Plan (TRP), to make public the schedule and relevant details of State Forest timber resources that have been allocated for the purposes of harvesting and selling timber (as well as associated management activities such as silvicultural regime, roading and coupe access works and reforestation). The plan must be consistent with the Allocation Order to which the plan relates. The TRP is developed by VicForests and subject to consultation with stakeholders, including the public. Following this consultation, the TRP progresses to the VicForests' Board for approval. Notice of this approval is made in the Victorian Government Gazette. Where areas fall outside of an Allocation Order, alternative authorisations may be sought to legally harvest areas of State Forest. This is primarily achieved through a Forest Produce License issued under section 52 of the *Forests Act 1958*.

Data Analysis and Methodology

Scope

This audit analysed only those VicForests coupes which are within the area of the Allocation Order and TRP, therefore excluded any VicForests coupes in Western Victoria (as per Figure 1). The Allocation Order relevant to this special audit was published in the Victorian Government Gazette on Tuesday 1 October 2013 (Victorian Government Gazette 2013) with amendments made on 30 October 2014 (Victorian Government Gazette 2014). The Approved Timber Release Plan 2017 (TRP 2017) which is relevant to this special audit was gazetted on 5 January 2017 (Victorian Government Gazette 2017).

The analysis of planned timber harvesting with the Allocation Order is limited to the Approved TRP 2017 up until 30 June 2018. The analysis of timber harvesting with the Allocation Order (and therefore the veracity of claims made by the ABC on 20 November 2018) is limited to the Approved TRP 2017 up until 31 October 2018.

Following the commencement of the special audit, amendments to the Allocation Order and the TRP were released on 24 April 2019. The Allocation (Amendment) Order 2019 (Victorian Government Gazette 2019a) and the Approved Timber Release Plan 2019 (Victorian Government Gazette 2019a) are out of scope for the special audit.

Sources of Data

A range of spatial and aspatial data sources were used to determine the extent of any planned or actual timber harvesting activities outside the area subject to the Allocation Order area (Table 1). Given the scale and extent of the mapped Allocation Order, as depicted in Appendix 1 of Government Gazette S343 (Figure 1), insufficient detail was available to allow for the necessary analysis required for the special audit to accurately determine whether VicForests had planned or harvested coupes on the Approved Timber Release Plan 2017 that were outside of the extent and location where timber harvesting could occur. For this reason, a detailed spatial dataset, known as the 'Working Forest Areas' dataset [WFA, (formally named wfa_20131001)] was obtained from DJPR as being the best spatial representation of the area of State Forest subject to the Allocation Order 2013 and the Allocation (Amendment) Order 2014.

The Allocation Order Map and the WFA were established and maintained by the DJPR (and before it the Department of Economic Development, Jobs, Transport and Resources, DEDJTR) on behalf of the Minister for Agriculture. The former Department of Environment and Primary Industries (DEPI) developed the WFA dataset to represent the spatial extent and location of timber resources vested in VicForests under section 13 of the *Sustainable Forests (Timber) Act 2004*. This function now sits with the DPJR which maintains the WFA dataset. The WFA is recognised by the OCR and DJPR as the best representation of the area of State Forest subject to the Allocation Order 2013 and the Allocation (Amendment) Order 2014, noting that the map featured in Gazette S343 (Victorian Government Gazette 2013) was unchanged in the Allocation (Amendment) Order 2014 (Victorian Government Gazette, 2014). The OCR considers that for auditing purposes, the WFA was the most reliable record of spatial data for assessing VicForests' timber harvesting activities with the Allocation (Amendment) Order 2014 (Victorian Government Gazette, 2014).

While the WFA was the practical mechanism that OCR has used for the special audit, OCR note that the WFA was only a representation of the Allocated area and is not legally enforceable. The Allocation Order Map (referenced above) was the only legal mechanism for determining the extent and location of where harvesting could occur for the entirety of this period, and previous legal advice is that it is not suitable for criminal prosecution of any allegedly unauthorised timber harvesting operations.

It is also noted that VicForests raised issues of errors and inaccuracies in the WFA with the former DEPI, DEDJTR and DJPR since 2013, and sought to clarify the spatial extent of resources with DEDJTR in 2016.

Logging history spatial data was used to analyse harvesting activities relevant to the Approved TRP 2017. This spatial data is neither a contemporaneous source of harvest activities, nor a scheduling tool. Given this limitation, a list of coupes harvested in the 2018/19 season (up until 31 October 2018), and all those scheduled for the 2018/19 financial year, were requested from VicForests to complement the analysis.

Table 1. Data used in the special audit

Title of Data	Type	Description	Currency date	Source
WORKING_FOREST_AREAS (also known as wfa_20131001)	Spatial data	The best spatial representation of the area of State forest subject to the Allocation Order 2013 and the Allocation (Amendment) Order 2014	25 January 2019	DJPR* (also available on the VSDL) [^]
TRP	Spatial data	The spatial extent and location of coupes on VicForests' Approved Timber Release Plan 2017	1 February 2018	VSDL [^]
LASTLOG25	Spatial data	The spatial extent and location of recent timber harvesting activities from 1 October 2013 until 30 June 2017	1 March 2019	VSDL [^]
LOG_SEASON	Spatial data	The spatial extent and location of timber harvesting activities from each season, e.g. 1998/99 (used for recently submitted data from season 2017/18)	1 March 2019	DJPR* (also available on the VSDL) [^]
VicForests' Harvesting Schedule	Attribute data	A list of coupes proposed for harvesting from 1 July 2018 to 30 June 2019	Received 20 December 2018	VicForests (not publicly available)

Coupes with timber volumes produced	Attribute data	A list of coupes in which a volume of timber was harvested from 1 July 2018 to 31 Oct 2018	Received 20 December 2018	VicForests (not publicly available) but will feature in future LASTLOG25 dataset
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*Data supplied from Department of Jobs, Precincts and Regions (DJPR). Both data sources used in analysis are identical to that currently on the VSDL

^VSDL data is freely available at <https://www.data.vic.gov.au/> and <https://services.land.vic.gov.au/>

Methodology

The TRP spatial data formed the basis for the final output, where additional attributes were added to indicate the proportion of the planned coupe area which was outside the WFA, whether it was harvested or planned to be harvested, as well as the hectare area harvested outside of the WFA. The process undertaken is described in Figure 2 and detailed in Appendix 1.

Two discreet pieces of analysis were undertaken to:

1. Determine coupes and coupe areas on the TRP that were outside the WFA
2. Determine the harvest area outside the WFA.

Analysis also flagged coupes that were scheduled for harvest in 2018/19, and those with harvesting history from 1 July 2018 - 31 October 2018.

All analysis was undertaken using ESRI ArcGIS software made available to DELWP via an Enterprise Agreement. Data analysis was completed on 1 March 2019.

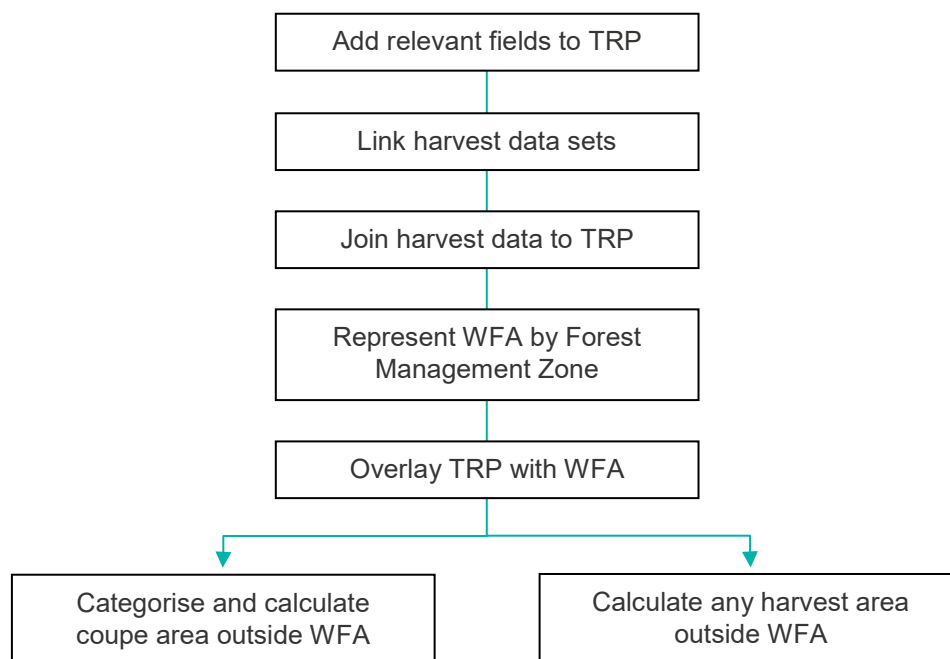


Figure 2. Major steps taken during analysis

Key Considerations and Assumptions

As the TRP map and data is not generated from the underlying WFA data, but rather is drawn and intended to be used at a landscape-scale; a degree of geometric variability between the two datasets exists and must be considered during analysis. To account for this variation, it was determined that coupes on the TRP which were found to be outside the WFA by less than 25% were excluded from further analysis regarding TRP non-conformance, as well as harvest scheduling or planning. This step accounted for the spatial variability between datasets, as well as any typical inaccuracies in source data (i.e. mapped vs true, in-field location of variables). If all TRP areas outside the WFA were subjected to the entirely 'literal' overlay analysis of comparing one data layer to another, false results that overstate the accuracy of the underpinning data layers would be unavoidable. TRP coupes less than 1 ha in size were also excluded from analysis to minimise these impacts.

These considerations and assumptions applied to the analysis for objectives, one, two and four of the special audit:

1. Analyse all coupes on the Approved Timber Release Plan 2017 (Victorian Government Gazette 2017) against the WFA
2. Identify and map any coupes (or portions of coupes) on the Approved Timber Release Plan 2017 whose boundaries exist beyond the WFA
4. Determine if timber harvesting activities are scheduled for any coupes on the Approved Timber Release Plan 2017 (to 30 June 2019) which are identified to be outside the WFA (wholly or partially)

When analysing harvesting history against the area defined by the WFA, non-conformance of less than 0.1 hectare (slivers) were excluded from further analysis. Harvest areas covered by alternate authorisation via a Wood Utilisation Plan or Timber Utilisation Plan were also excluded. These measures applied to the third objective of the special audit:

3. Determine the extent of timber harvesting which has occurred outside the area the subject of the Allocation (Amendment) Order 2014 (Victorian Government Gazette, 2014)

Given the purpose of analysis, DELWP spatial data analysts were tasked with analysing the best available data in the state upon which it was published. As part of the initial analysis, it was identified that several coupe addresses in harvesting history datasets were incorrect. Steps were taken to ensure that these coupes were interrogated during analysis, however there were no changes made to the geometry of any spatial data sources used during the special audit.

Results

Summary

The Approved TRP 2017 (Victorian Government Gazette 2017) featured 3,289 coupes representing activities including silvicultural regime, roading and coupe access works and reforestation. Using the WFA as the best spatial representation of the area of State forest subject to the Allocation Order 2013 and the Allocation (Amendment) Order 2014, 201 TRP coupes were identified to be outside the WFA (Table 2), including 51 coupes found to be wholly outside the WFA and the remainder outside the WFA to a lesser degree (Table 2). Of the 201 identified as outside the WFA, wholly or partially, five were scheduled for harvesting before the end of the 2018/19 financial year (Table 3). Nearly 90 per cent (175) of all coupes found to be outside the WFA, wholly or partially, were not identified to be harvested or scheduled for harvesting up until 30 June 2019. A full list of the 201 coupes is listed in Appendix 2.

Table 2. Summary of TRP coupes outside the WFA

	Coupes outside WFA
100% outside WFA	51
75-99% outside WFA	35
50-<75% outside WFA	31
25-<50% outside WFA	84

Planned Timber Harvesting

As per data provided to DELWP by VicForests relating to VicForests' Harvesting Schedule from 1 July 2018 to 30 June 2019, five TRP coupes with portions existing outside the WFA were proposed for harvesting by the end of the 2018/19 financial year (Table 3).

Table 3. TRP coupes outside the WFA area and scheduled for harvesting in 2018/19

Coupes 100% outside WFA	Coupes 75-99% outside WFA	Coupes 50-75% outside WFA	Coupes 25-50% outside WFA
	286-507-0015	461-502-0013	286-505-0027
		883-503-0011	526-501-0006

Completed Timber Harvesting

Two separate analyses were performed to assess timber harvesting activities against the WFA, up until 31 October 2018.

The first analysis used the list of coupes for which a volume of timber was recorded as harvested from 1 July 2018 to 31 October 2018. Results showed that for coupes in which a volume was produced during this period, none were outside the WFA.

The second analysis used the available timber harvesting spatial datasets (LASTLOG25 & LOG_SEASON) which included activities from 1 October 2013 to 30 June 2017. When independently analysing this harvesting history with respect to the WFA spatial data layer, 50 instances of timber harvesting across 48 different coupes were identified to have occurred outside the WFA, totalling 112.4 ha (Table 4 and Appendix 3). The degree of non-conformance ranged from 0.1 – 30.3 hectares, with just over half (59.1 ha) of the total amount harvested occurring across three coupes: ‘Squirrels Paw’, ‘Little Jacqui’ and ‘Coyotes Paw’ coupes. 30 instances of timber harvesting identified to have occurred outside the WFA were less than 1 ha in size.

Table 4. Summary of timber harvesting activities (>1 ha) outside the WFA for the Approved TRP 2017

Coupe Address	Coupe Name	Area (ha) Harvested outside the WFA area*	Harvest Season
892-507-0020	Squirrels Paw	30.3	2017/18
287-509-0003	Little Jacqui	21.3	2015/16
892-507-0021	Coyotes Paw	7.5	2017/18
773-501-0025	Cocksfoot	4.1	2017/18
743-502-0005	Mississippi Upper	3.8	2017/18
775-503-0001	Alopecia	3.0	2015/16
894-507-0007	Coffee Scroll	2.9	2015/16
743-502-0004	Mississippi	2.9	2017/18
462-502-0002	Haymans Fall	2.8	2016/17
298-515-0005	Phillip Island	2.6	2014/15
347-515-0012	Upper Learmonths	2.5	2017/18
480-505-0010	Alstergrens Rd	2.4	2014/15
773-501-0008	Buffalo Grass	2.3	2015/16
461-502-0011	Beat to Beat	2.1	2017/18
894-507-0001	Cream Bun	2.0	2015/16
298-513-0005	French Island	1.8	2016/17
490-501-0009	Super Fizz	1.6	2016/17
483-502-0002	Smack Dab	1.5	2016/17
461-502-0004	OJ	1.1	2015/16
309-510-0003	Booster	1.1	2016/17

*Hectare figure derived from LASTLOG25/LOG_SEASON datasets

Data Management Considerations

During analysis, it was found that in seven instances, coupe addresses assigned to timber harvesting activities did not match that of the coupe address where the activity occurred. This was apparent for Squirrels Paw, Upper Billow, Roadhouse, Alstergrens Rd, Extra Well Done, Trevor, and Phillip Island. It is important that both VicForests and DJPR subject all timber harvesting data to relevant quality and validation processes to ensure that it accurately reflects the nature of any activities.

Limitations

The Allocation Order Map was at a scale and level of detail that meant the special audit could not accurately determine whether VicForests had planned or harvested coupes on the Approved Timber Release Plan 2017 that were outside of the extent and location where timber harvesting could legally occur. This is consistent with previous legal advice that the Allocation Order Map was not suitable for criminal prosecution of any alleged unauthorised timber harvesting operations.

While OCR found harvesting outside the WFA, we note that the WFA was only a representation of the legally Allocated area, and previous legal advice is that it cannot be relied upon for criminal prosecution of any alleged unauthorised timber harvesting operations.

Any analysis completed as part of this special audit is dependent on the integrity of data sources which were analysed. The results of this analysis are also dependent on the sources of data used, the currency of these sources and the timeframe for which they represent any activity. Discussions of these results, broader interpretation and any extrapolation must be cognisant of such limitations.

Recommendations

In April 2019, the Victorian Government Gazetted Allocation (Amendment) Order 2019 (Victorian Government Gazette 2019a). This Allocation Order area is now clearly defined by the spatial data layer known as 'VicForests_Allocation_Apr2019'. These April 2019 changes to the Allocation Order incorporate recommendations from OCR to improve enforceability through the referencing of the spatial data source used to define the Allocated area. The incorporation of this spatial data layer provides the legal mechanism with the necessary spatial detail to be practically applied in the field and during coupe planning, as well as for the purposes of compliance and enforcement.

Recommendations arising from this audit focus on improving the robustness of processes and systems to complement the changes made to the 2019 Allocation Order and will maximise the potential for effective regulation. They include:

1. VicForests ensures that it has the appropriate approvals for harvesting timber in or adjacent to the currently gazetted Allocation Order. This includes:
 - a) Through the direct mechanism of any gazetted Allocation Order; or
 - b) Through a Forest Produce Licence where required
2. VicForests provides biannual updates of timber harvesting spatial data to both DJPR and DELWP.
3. DJPR considers the appropriate timescale for the update of relevant, centrally-held spatial data library within a reasonable time of receipt.
4. DJPR and VicForests work with DELWP to develop and improve procedures to ensure robust end-to-end data curation and governance practices including data validation, version control and registration.
5. DJPR consider an annual reconciliation between the Allocation Order and key datasets (i.e. the FMZ schema) and a subsequent gazettal, so as the Allocation Order accurately reflects timber resources available to VicForests via the Allocation Order.
6. DELWP and DJPR continue to improve spatial data relating to the zoning of forests and the allocation and use of timbers.

Furthermore, as a response to this review, the OCR will undertake a biannual assessment of VicForests' Timber Release Plan and timber harvesting activities, with respect to the Allocation Order. The OCR will also establish clear procedures for the licencing of VicForests' operations that fall outside any Allocation Order, and means of systematically recording these so that they are readily accessible.

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Appendix 1 – Process of Spatial Analysis

1. Add fields to the source Approved Timber Release Plan 2017 data to record harvesting history details, Forest Management Zone (FMZ), gross coupe area (in hectares), percentage outside the WFA, and comments field to allow description of results of the overlay process
2. Populate the coupes which were harvested or planned for harvest by linking the supplied tables ('VicForests' Harvesting Schedule' and 'Coupes with timber volume produced') on coupe address, and the attributes of LASTLOG25/Logging History data (using a 'Spatial Join'). This recorded the actual harvest area rather than an intersected area, since there were some differences in the coupe footprint between planned and actual harvesting
3. Simplify the WFA data layer (using the 'Dissolve' function), based upon FMZ value – this was to remove the unnecessary detailed breakdown by forest type and therefore simplify for the final overlay analysis
4. Overlay the TRP with the simplified WFA (using the 'Identity' feature), retaining full TRP shapes
5. Identify areas of TRP coupes that were outside WFA by selecting records that had a 'blank' FMZ value. A 'blank' FMZ value (derived from within the WFA data) indicated areas outside the area the subject of the Allocation (Amendment) Order 2014 (Victorian Government Gazette, 2014).
6. Compute the percentage of the area in hectares
7. Calculate the area (in hectares) of each coupe identified to be outside of the WFA and categorise the actual percentage of gross coupe area outside the WFA into the following groups: i) Wholly within WFA, ii) 1-25% outside, iii) 25-50% outside, iv) 50-75% outside, v) 75-99% outside and vi) Totally outside WFA
8. For all coupes on the TRP, identify those which had harvesting occur outside the area the subject of the Allocation (Amendment) Order 2014 (Victorian Government Gazette, 2014) and calculate the area (in hectares) of any logging history (relevant to the scope of analysis) outside the WFA, through 'Overlay' analysis

Appendix 2 – List of all TRP coupes (wholly or partially) outside the WFA

100% outside WFA	75-99% outside WFA	50-75% outside WFA	25-50% outside WFA
297-511-0001	871-503-0014	893-504-0002	842-515-0028
871-507-0012	458-501-0003	685-507-0001	480-504-0017
309-512-0001	871-503-0015	312-509-0002	309-509-0001
347-508-0001	464-506-0001	830-510-0008	842-519-0018
832-501-0003	300-504-0001	892-507-0011	871-503-0011
287-509-0003	830-508-0008	464-504-0007	686-503-0001
483-503-0006	460-DMP-0001	742-513-0004	349-502-0017
348-510-0008	842-508-0022	286-514-0001	297-509-0001
286-512-0022	891-513-0016	743-501-0009	295-527-0004
842-516-0016	837-501-0004	288-503-0005	838-501-0008
842-518-0035	347-516-0004	461-502-0013	894-507-0007
684-501-0010	309-508-0014	520-501-0003	481-507-0019
318-512-0021	297-511-0002	300-537-0002	760-504-0001
684-504-0006	348-510-0002	876-515-0004	345-526-0003
318-512-0013	469-501-0005	830-510-0011	287-519-0013
297-511-0002	776-502-0003	307-508-0001	830-509-0012
342-502-0002	312-510-0004	342-501-0003	810-506-0006
346-504-0002	526-501-0003	320-502-0040	840-502-0009
312-509-0006	841-507-0012	458-505-0011	350-511-0002
463-501-0008	481-508-0016	883-503-0011	286-505-0016
344-553-0007	342-501-0004	482-501-0051	344-509-0009
711-503-0010	895-508-0002	832-508-0015	892-507-0010
463-501-0005	307-507-0001	894-501-0002	776-504-0022
309-513-0003	535-504-0005	894-501-0003	348-510-0002
848-506-0005	830-509-0011	283-503-0013	462-506-0021
685-507-0001	307-503-0031	805-501-0008	307-505-0003
711-503-0011	743-501-0009	749-516-0005	300-530-0002
684-504-0003	842-516-0016	348-510-0002	773-501-0021
497-501-0003	892-507-0020	522-502-0021	300-533-0001
684-504-0006	286-507-0015	318-512-0022	773-501-0025
684-504-0012	842-516-0010	317-007-0004	480-506-0001
497-501-0001	892-507-0021		344-552-0004

684-504-0008	874-501-0013	832-501-0025
287-507-0001	849-506-0005	829-515-0012
287-509-0003	803-504-0033	774-502-0007
497-501-0002		830-511-0022
684-504-0009		722-504-0001
848-506-0006		832-501-0030
848-502-0001		842-515-0027
684-501-0010		807-501-0020
848-506-0003		348-504-0005
848-502-0003		348-510-0008
848-506-0001		348-510-0005
830-509-0004		287-509-0005
848-502-0002		463-505-0001
848-506-0005		287-519-0012
848-506-0002		892-519-0013
685-507-0004		309-507-0003
848-503-0010		743-502-0005
684-504-0005		345-503-0005
803-504-0032		480-505-0017
		892-509-0001
		347-517-0007
		288-512-0001
		722-504-0004
		526-501-0006
		832-501-0003
		286-505-0027
		841-502-0021
		297-826-0002
		309-513-0002
		773-501-0023
		348-510-0006
		309-511-0007
		830-511-0022
		459-503-0003

894-505-0001
867-502-0013
300-537-0004
481-505-0024
842-510-0025
350-503-0002
842-520-0035
461-514-0010
832-505-0014
892-511-0002
342-501-0002
741-514-0008
871-503-0009
892-511-0001
346-508-0001
834-506-0008
318-512-0035
317-505-0010

Appendix 3 – All timber harvesting activities identified to have occurred outside the WFA

Coupe Address	Coupe Name	Area (ha) Harvested outside the WFA area*	Harvest Season
892-507-0020	Squirrels Paw	30.3	2017/18
287-509-0003	Little Jacqui	21.3	2015/16
892-507-0021	Coyotes Paw	7.5	2017/18
773-501-0025	Cocksfoot	4.1	2017/18
743-502-0005	Mississippi Upper	3.8	2017/18
775-503-0001	Alopecia	3.0	2015/16
894-507-0007	Coffee Scroll	2.9	2015/16
743-502-0004	Mississippi	2.9	2017/18
462-502-0002	Haymans Fall	2.8	2016/17
298-515-0005	Phillip Island	2.6	2014/15
347-515-0012	Upper Learmonth	2.5	2017/18
480-505-0010	Alstergrens Rd	2.4	2014/15
773-501-0008	Buffalo Grass	2.3	2015/16
461-502-0011	Beat to Beat	2.1	2017/18
894-507-0001	Cream Bun	2.0	2015/16
298-513-0005	French Island	1.8	2016/17
490-501-0009	Super Fizz	1.6	2016/17
483-502-0002	Smack Dab	1.5	2016/17
461-502-0004	OJ	1.1	2015/16
309-510-0003	Booster	1.1	2016/17
286-509-0004	Trevor	0.9	2014/15
457-508-0002	TJ Lower	0.8	2015/16
462-507-0008	Estate	0.8	2016/17
318-512-0026	Ant Man	0.7	2017/18
350-503-0008	Worley Hill	0.7	2015/16
395-502-0003	Stringybark Creek	0.7	2015/16
287-508-0012	Calvin	0.6	2015/16
832-501-0017	Douthat RDI	0.6	2015/16
320-501-0017	Roadhouse	0.6	2014/15
320-502-0014	Pink Panther	0.5	2015/16
832-501-0018	Selwyn	0.5	2017/18
830-511-0022	Extra Well Done	0.5	2014/15
773-502-0008	Disillusion	0.5	2015/16
832-502-0017	Football	0.5	2015/16
771-507-0002	Groves Gap	0.5	2016/17
773-501-0025	Cocksfoot	0.5	2016/17
283-506-0002	Black Russian	0.4	2016/17

394-501-0004	Opposite Kelly	0.4	2016/17
283-503-0014	Garlick	0.3	2016/17
834-506-0011	Catapult	0.3	2015/16
395-502-0003	Stringybark Creek	0.2	2016/17
288-510-0009	Robotsky	0.2	2015/16
298-513-0004	King Island	0.2	2016/17
462-502-0001	Big Ted	0.2	2016/17
462-502-0003	Little Ted	0.2	2016/17
457-501-0026	Craven Cottage	0.1	2015/16
320-501-0028	Three Stooges	0.1	2015/16
457-501-0022	Brynn	0.1	2016/17
307-505-0011	Guitar Solo	0.1	2017/18
350-503-0009	Upper Billow	0.1	2014/15

*Hectare figure derived from LASTLOG25/LOG_SEASON datasets