



# Minimising impacts to Koalas in blue gum plantations

Regulatory Guide

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CONSERVATION  
REGULATOR VICTORIA

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## Regulatory Guide

### Acknowledgement of Traditional Owners

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.



Report produced by the Conservation Regulator  
PO Box 500, East Melbourne, Victoria 8002  
Telephone 136 186 [conservationregulator.vic.gov.au](http://conservationregulator.vic.gov.au)  
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# Glossary

Unless inconsistent with context or subject matter, each word or phrase defined in this glossary has the following meaning when used in this document:

<b>Authorised Officer</b>	An employee of the Department of Energy, Environment, and Climate Action who is authorised under section 83(1) of the <i>Conservation, Forests and Lands Act 1987</i> for the purposes of the <i>Wildlife Act 1975</i>	<b>Koala incident</b>	Includes any situation where a Koala is physically impacted during blue gum plantation management operations. The impact could be by trees, machinery, chemicals, fire or people. It includes a Koala falling from a tree in the harvest zone or a juvenile Koala being separated from its mother. Koala incidents do not include near misses or finding a dead or injured Koala in a blue gum plantation where the cause is unable to be determined or is clearly not related to plantation operations, although these data must be recorded and reported to the Conservation Regulator.
<b>Coppice</b>	Regrowth on the stumps of harvested trees left to regenerate.	<b>Koala Index</b>	The model explained in <a href="#">Appendix 2</a> of this document.
<b>Coppice management</b>	Any activity which is undertaken on coppice that may impact Koalas. At a minimum it includes the application of chemicals (herbicide or pesticide), fire treatment and the mechanical removal or destruction of coppice. It excludes coppice thinning operations where coppice stems are selectively removed.	<b>Manager</b>	A blue gum plantation management company that leases a blue gum plantation from the owner of the plantation for the purposes of managing the plantation, or who has been contracted by the owner of a blue gum plantation to undertake the management of the plantation. This includes third party or stumpage agreements where ownership of the trees pass to a company at harvest.
<b>Expected Koala Index</b>	The average Koala Index across the industry.	<b>Near miss</b>	A dangerous incident where no harm comes to a Koala, but it is exposed to an immediate or imminent serious risk. It includes any incident where a Koala is almost physically impacted during operations, either by trees, machinery, chemicals, fire or people, for example a Koala walking past a harvester in operation.
<b>Feller buncher</b>	A harvester that can rapidly cut and gather a number of trees before felling them.		
<b>Fire treatment</b>	Any activity which is undertaken using fire. For example, burning coppice or slash.		
<b>Gullet</b>	A cleared area created by a harvester felling trees into standing blue gum plantation. As soon as the trees are able to be fallen into previously harvested or open areas then it is not a gullet.		
<b>Harvest zone</b>	The area to be harvested in a shift by either a feller buncher or single grip harvest system.		
<b>Juvenile Koala</b>	A Koala joey that is dependent on its mother and is not yet weaned.		

<b>Operational area</b>	A single area of variable size, shape and orientation on which a plantation management operation occurs.
<b>Owner</b>	The owner of a blue gum plantation. This can be either a natural person or a body corporate.
<b>Plantation</b>	The blue gum plantation in which the plantation management operations will be undertaken.
<b>Plantation management operations</b>	Any activity that poses a welfare risk to Koalas. At a minimum this includes harvesting, roading, fire treatment of slash and coppice management.
<b>ProofSafe</b>	The mobile phone and tablet application that is used by plantation owners and managers to record and report the data required under the authorisation to disturb Koalas.
<b>Qualified ecologist</b>	A person suitably qualified by training, education and experience in Koala ecology, management and welfare, such as a landscape ecologist with Koala expertise.
<b>Single grip harvester</b>	A harvester that fells, debarks and cuts individual trees.
<b>Slash</b>	Woody debris left after harvest operations.
<b>Spotter</b>	A person employed or engaged to spot Koalas in a blue gum plantation during operations.
<b>Veterinarian</b>	A veterinary practitioner registered with the Veterinary Practitioners Registration Board of Victoria or interstate equivalent.
<b>Wildlife rehabilitator</b>	A person authorised under section 28A(1)(f) of the Wildlife Act to enable the care, treatment or rehabilitation of sick, injured or orphaned wildlife.



## Regulatory Guide

Regulatory Guides are intended to provide information on the legislative and regulatory framework, how to comply and how the Conservation Regulator will ensure compliance. This document provides information on the regulatory requirements on blue gum plantation owners and managers to minimise the impact to Koalas while enabling the harvest of blue gums. It outlines who needs an authorisation, the obligations of those persons, and how to comply. It also describes how the Conservation Regulator will oversee authorisations, compliance and enforcement.

## Conservation Regulator

The Conservation Regulator was established by the Department of Environment, Land, Water and Planning (DELWP) now known as Department for Energy, Environment and Climate Action (DEECA), in 2019 following an independent review of DELWP's approach to timber harvesting regulation in Victoria's public native forests. The Conservation Regulator oversees DEECA's regulatory functions.

# Introduction

Plantations are an important part of supplying domestic and international timber needs and blue gums (*Eucalyptus globulus*) form part of this key resource. The blue gum industry in Victoria operates on private land and is largely conducted by plantation management companies.

Koalas (*Phascolarctos cinereus*) are an important component of Australia's biodiversity as well as being a culturally and socially significant animal and a major tourist drawcard. Koala populations in Queensland, NSW and ACT are listed as endangered under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*. Conversely, Victoria has a higher Koala population. For example, the Victoria's Barwon South West region has high numbers of Koalas and large areas of plantation. Recent analysis predicts an abundance of approximately 210,277 Koalas in Barwon South West's native forest and woodland estate, plus approximately 42,581 Koalas in the Barwon South West Eucalypt plantation estate<sup>1</sup>. In some areas of Victoria, population densities are so high that the resulting browsing pressure on preferred tree species is unsustainable. These densities pose a direct threat to the integrity of entire forest patches as well as the Koalas' own welfare. Regardless of population density, koalas are protected within Victoria under the *Wildlife Act 1975*.

Koalas are increasingly moving into blue gum plantations seeking new habitat areas, with blue gums becoming a preferred food tree.

Timber harvesting and management of regrowth in blue gum plantations have the potential to injure, displace or kill Koalas. The legislative and regulatory framework aims to ensure best practice in the plantation industry in Victoria, to minimise the disturbance to Koalas and protect Koala welfare.

## Objectives of the regulatory approach

The approach to the regulation of Koala management in blue gum plantations seeks to minimise impacts to Koalas in blue gum plantations by:

- Improving monitoring and reporting of Koala observations and incidents to inform adaptive management.
- Continuously improving mitigation measures and responses to Koala incidents.
- Implementing a system that is clear and achievable for plantation owners and managers.
- Ensuring that the regulatory approach provides appropriate oversight and enforceability.
- Ensuring transparency and accountability.

Anyone that is likely to disturb wildlife requires appropriate authorisation to do so under the *Wildlife Act 1975*.

<sup>1</sup> Taken from the koala abundance model (ARI – 2021).

# Legislative and regulatory framework

## Relevant legislation

All wildlife in Victoria are protected under the *Wildlife Act 1975* (Wildlife Act) and the *Prevention of Cruelty to Animals Act 1986* (POCTA Act). These Acts include offences for disturbing, harming, possessing or destroying wildlife without the appropriate authority.

Section 28A of the Wildlife Act allows for an authorisation to be issued to control wildlife (including hunt, take, destroy, possess and disturb) provided that the Secretary of DEECA (or delegate) is satisfied that it is necessary for at least one of the reasons listed in that section.

To ensure compliance with these requirements, the Conservation Regulator requires owners and managers of blue gum plantations where Koalas are likely to be disturbed in Victoria to develop a koala management plan and hold an authorisation to disturb Koalas during plantation management operations.

Disturbance must be in accordance with an endorsed koala management plan and authorisation conditions. A breach of conditions is an offence under the Wildlife Act and can result in large fines or suspension, cancellation or restrictions to the authorisation.

Where an authorisation has been granted under section 28A of the Wildlife Act, an authorisation holder is exempt from cruelty offences under the POCTA Act. Accordingly, a breach of a condition of an authorisation issued under the Wildlife Act could also result in contravention of the POCTA Act.

## Victoria Planning Provisions

Under the Victoria Planning Provisions (VPPs) and all planning schemes, forestry and timber production is a defined land use, allowing for the establishment, management and harvesting of plantations and the harvesting of timber from native forests. As the responsible authority, local government is required to ensure compliance with the VPPs and all planning schemes, including permit requirements and the Code of Practice for Timber Production 2014 (the Code). Clause 53.11-2 of the VPPs specifies that the Code must be complied with to the satisfaction of the responsible authority. It is an offence under section 126 of the *Planning and Environment Act 1987* to fail to comply with the planning scheme. Fines or prosecution may result. Local government may monitor and enforce compliance with the Code.



Image Marcia Riederer

## Code of Practice for Timber Production 2014 (the Code)

The Code governs three types of timber harvesting activities in Victoria: activities occurring in state forests (Chapter 2), private native forests (Chapter 3) and plantations (Chapter 4). Chapter 4 is relevant for blue gum plantations. As stated above, compliance with the Code is mandatory for private native forests and plantations under the VPPs.

The purpose of the Code is to provide direction to timber harvesting managers, harvesting entities and operators to deliver sound environmental performance at all levels of timber harvesting operations. This includes planning for and conducting commercial timber harvesting operations. Under the Code, protection of relevant environmental values must be addressed, with a Timber Harvesting Plan required to be prepared and submitted to the responsible authority prior to the commencement of operations. Additionally, the Code states that planning and management of timber harvesting operations must comply with relevant biodiversity conservation measures specified within the Management Standards and Procedures (section 2.2.2.1), which for private land is the Management Guidelines for the Code of Practice for Timber Production on Private Land (native vegetation and plantations) in Victoria.

Appendix A of the Code sets out legislation and regulations which apply to timber harvesting productions.

**Appendix 1** of this document provides guidance to Councils and blue gum plantation owners and managers regarding Timber Harvesting Plans as required under the Code.

## Who is required to hold an authorisation?

If you are an owner or a manager of a blue gum plantation or native vegetation and you are planning to undertake works that may impact Koalas, you must comply with all relevant legislation including the Wildlife Act.

All owners and managers of blue gum plantations have obligations to protect wildlife during operations. Owners and operators of blue gum plantations should assess Koala densities and obtain an authorisation to disturb Koalas before undertaking any activities that will disturb Koalas. Activities which disturb or harm Koalas without an appropriate authorisation in place would constitute an offence under the Wildlife Act and/or the POCTA Act.

Where the owner or manager of a blue gum plantation undertakes the management (harvest planning, harvesting, silviculture, roading etc.) of the plantation, either directly or through employed staff or contractors, the plantation owner or manager is responsible for obtaining authorisation to disturb Koalas.

If you are not sure whether you need to apply for an authorisation, please visit the Conservation Regulator website at [vic.gov.au/koalas-blue-gum-plantations](http://vic.gov.au/koalas-blue-gum-plantations) or call **DELWP Customer Contact Centre on 136 186**.

Image Marcia Riederer



## Roles and responsibilities

Key roles and responsibilities for minimising impacts to Koalas in blue gum plantations:

Role	Responsibilities
Plantation owners and managers	Plantation owners and managers are responsible for the welfare of koalas during plantation management operations. They are legally required to obtain an authorisation to disturb koalas prior to commencing any plantation management operations.
	Plantation managers and owners must comply with the conditions of the authorisation and must monitor the impacts of plantation operations on Koalas and take corrective action as required.
Landowners	Once commercial harvesting has ceased, landowners, leasees and/or managers are responsible for the welfare of any wildlife remaining on the property.
	If you are managing vegetation or doing any works that may impact Koalas, you must comply with all relevant legislation including the Wildlife Act. You may be required to hold an authorisation under the Wildlife Act.
Local government	Timber production is a defined land use in the Victoria Planning Provisions and all planning schemes. Local government oversees compliance with the planning provision system, including: <ul style="list-style-type: none"> <li>• Ensuring compliance with the Victorian Planning Provisions and local planning scheme.</li> <li>• Reviewing Timber Harvesting Plans as set out in the Code.</li> <li>• Monitoring and enforcing compliance with the planning scheme and the Code.</li> </ul>
Conservation Regulator	The Conservation Regulator is responsible for administration of the Wildlife Act, including: <ul style="list-style-type: none"> <li>• Issuance of authorisations to disturb Koalas.</li> <li>• Ensuring appropriate approvals and conditions.</li> <li>• Monitoring compliance and enforcing the law.</li> </ul>



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# How to comply

Once you have determined your plantation management operations are likely to disturb Koalas, you must apply to the Conservation Regulator for an authorisation.

## Applying for an authorisation under the Wildlife Act

To apply for an authorisation under the Wildlife Act to disturb Koalas during plantation management operations, you must fill in the application form available on the Conservation Regulator website [vic.gov.au/koalas-blue-gum-plantations](http://vic.gov.au/koalas-blue-gum-plantations) and submit a Koala Management Plan.

Applications can be submitted to the local contact listed on the application form. Applications can take up to six weeks to process. If the Conservation Regulator requires further information in relation to your application, then additional time will be required to process your application. One application is required per company and covers all sites in Victoria where plantation management activities occur.

## Authorisation to disturb Koalas during blue gum plantation operations

The Conservation Regulator assesses each application on its merits. This includes an assessment of the circumstances of the application to ensure that an authorisation is needed and an acceptable Koala Management Plan has been provided. The Conservation Regulator can only issue an authorisation to disturb Koalas during blue gum plantation operations in conjunction with a recognised wildlife management plan. Compliance with both the authorisation and the Koala Management Plan is required.

The authorisation sets out specific steps and minimum standards that a blue gum plantation owner or manager must take to minimise impacts and ensure the welfare of Koalas is protected during plantation management operations. The authorisation holder is responsible for meeting all authorisation conditions.

These requirements include:

- Reporting all Koala checks, observations and incidents to the Conservation Regulator via ProofSafe.
- Engaging appropriately trained Koala spotters to look for and monitor Koalas during harvesting and other plantation management operations.
- Retaining a minimum of nine live trees (or stumps if during coppice management) per Koala spotted to provide sufficient browse and protection for the Koala until it can find its own way out of the area safely.
- Seeking immediate veterinary care if a Koala incident occurs.
- Ensuring at least one person trained in Koala assessment and handling is on site at all times with access to Koala handling and transport equipment.
- Assessing Koala welfare at the end of each day of plantation management operations plus two to three, six to seven and 10 to 11 days following completion of operations on site. This involves checking the operational area for Koalas in trees (using binoculars) and on the ground and assessing their welfare (injuries and behaviour) to determine whether veterinary assessment is required. The range in days is to avoid having to undertake inspections in unfavourable and potentially dangerous conditions such as high winds or total fire bans.

## Koala Management Plan

The Koala Management Plan must be prepared by the blue gum plantation owner or manager in consultation with an ecologist and then reviewed and recognised by the Conservation Regulator. A template is available on the Conservation Regulator website [vic.gov.au/koalas-blue-gum-plantations](http://vic.gov.au/koalas-blue-gum-plantations).

The Koala Management Plan must include a risk assessment that identifies potential risks to Koalas from plantation management operations, outlines how the plantation owner or manager will minimise disturbance to Koalas, protect Koala welfare and what actions will be taken if Koala incidents increase.

The assessment criteria for Koala Management Plans includes:

- The plan was developed by a person suitably qualified by training, education and experience to write such a plan.
- Preparation in consultation with a qualified ecologist.
- All sections of the Koala Management Plan template are appropriately completed.
- The plan appropriately addresses how it will minimise impacts to Koalas.
- A clear method to determine the number of spotters, and the harvesting method required (method should give consideration to harvesting sequence that provides for refuge paths for koalas to suitable habitat).
- Appropriate incident response procedure that maximises Koala welfare.
- Consistency with government policies, the Wildlife Act and the POCTA Act.

## The Koala Index

The Koala Index is a measure which has been developed (see [Appendix 2](#) Koala Index) to underpin a revised regulatory framework for blue gum plantation companies. The Koala Index provides an indication of the effectiveness of a plantation company's management measures to identify and protect Koalas across operations.

The Koala Index is calculated by first determining the Koala incident rate. This is a comparison of Koala incidents with Koala observations during the same time period. Authorised blue gum plantation operators must report all Koala incidents and observations whilst undertaking plantation management operations.

A Koala incident is recorded when a Koala is physically impacted during plantation management operations. The impact could be by trees, machinery, chemicals, fire or people. It also includes a Koala falling from a tree in the harvest zone or a juvenile Koala being separated from its mother.

Koala incidents do not include near misses or finding a dead or injured Koala in a plantation where the cause is unable to be determined or clearly not related to plantation operations, although this data must still be recorded and reported to the Conservation Regulator.

Once the Koala incident rate is determined, the Koala Index can be calculated to enable comparisons between the blue gum plantation company and the average Koala Index across the industry (expected Koala Index). In general, a Koala Index of zero or greater indicates that the management measures being implemented are at a level that is equal to or better than the industry average (i.e. management measures are effective in reducing Koala incidents). If a Koala Index is less than zero (i.e. negative), the number of Koala incidents occurring across the blue gum plantation company's operations is poorer than the industry average.

The industry is expected to focus on continuously improving its performance. Negative Koala Index results indicate a need to explore options for remedial action. This could be in the form of a rectification plan as outlined in the Monitoring compliance section below.

However, if the Koala Index results are consistently poor or severely low, there is a set of quality control indicators that may trigger an investigation by Authorised Officers. The quality control indicators are listed in [Appendix 1](#).

Disturbance of Koalas that is not in accordance with the Koala Management Plan is a breach of a condition of the authorisation and may be subject to enforcement action. For further information on enforcement action where a condition has been breached, see the [Monitoring and enforcing compliance](#) section of this document.

## Data collection and reporting

Data to support regulatory oversight, and the calculation of the Koala Index, is required to be collected by plantation owners and managers via an interactive application (ProofSafe). ProofSafe enables real time upload and access by the authorisation holder and the Conservation Regulator. The data collected includes plantation details, number of spotters, number of Koalas observed, harvesting method and machinery, weather, any Koala incidents and near misses.

The data collected in ProofSafe is used to calculate the Koala Index, to monitor compliance, and to analyse trends over time. It may also be used for Koala population monitoring.

The Koala Index score for blue gum plantations is calculated monthly and are used to monitor compliance, to chart an indication of Koala management by the blue gum plantation owner or manager over time and to support assessment of appropriate action to minimise their impacts to Koalas.

To provide information on trends in Koala incidents and promote improved practices over time, the Conservation Regulator has introduced requirements for public reporting. Information will be publicly reported quarterly in a scorecard published on the Conservation Regulator's website. Company names and any 'commercial in confidence' information will not be published. Koala Management Plans remain the property of the authors and will not be published or shared by the Conservation Regulator.



# Monitoring and enforcing compliance

The Conservation Regulator's approach to compliance and enforcement will be consistent with its Compliance and Enforcement Policy (DELWP 2019). Our goal is to maximise compliance with the law, reducing harm and providing benefits to the community and our environment.

We consider factors such as whether breaches of the law were intentional, reckless or repeated, and the impact of the breach in our decision making. This means that our approach will shift depending on the circumstances, from providing information and advice about how to comply with the law through to imposing fines, cancelling authorisations or prosecuting for serious offending.

## Supporting compliance

This document provides clear and accessible information to support blue gum plantation owners and managers to understand the law and how to comply with it. This document is publicly available, allowing all interested stakeholders the opportunity to understand the Conservation Regulator's requirements and regulatory approach to minimise impacts to Koalas in blue gum plantations.

The Koala Management Plan template further supports reduced impacts to Koalas. The development of ProofSafe for authorisation holders to capture and report Koala incidents (within 24 hours), observations (immediately) and near misses (within 24 hours) ensures easy and accurate data reporting.

Authorisation holders can contact the Conservation Regulator to seek further advice on Koala management issues as required.

## Monitoring compliance

Authorised officers monitor compliance with the conditions outlined in the authorisation and ensure operations are conducted in line with the Koala Management Plan.

Details of all detection checks and locations of Koalas must be recorded completely and accurately, as soon as practicable, in ProofSafe. Complete and accurate information on all Koala incidents and near misses must be recorded in ProofSafe. The Conservation Regulator will monitor all data submitted to ProofSafe, with access to the data in real time.

The Koala Index is calculated to monitor performance and provide data for public reporting. The Conservation Regulator expects that blue gum plantation owners and managers monitor their Koala Index and seek to modify practices to further minimise impacts when required. If the Koala Index indicates declining performance, the Conservation Regulator may request that the authorisation holder provide a rectification plan that outlines the process taken to determine why the incidents occurred, details of issues identified and proposed corrective actions, including a timeframe for implementation. The rectification plan must be provided within 10 business days of the request and must be to the satisfaction of the authorised officer.

The Conservation Regulator will undertake inspections and audits of authorisation holders regularly to ensure that the authorisation conditions are being met. Inspections and audits will be conducted with or without notice. Inspections focus on on-ground activities, with audits ensuring that the reporting and record keeping of the authorisation holder is accurate and up to date.

## Assessing non-compliance

The Conservation Regulator treats all reports of non-compliance as high priority (e.g. non-compliance with an authorisation and/or illegal harm to wildlife). All reports, including those from third-parties, will be subject to preliminary investigations. Preliminary investigations may include reviewing other intelligence, desktop assessments, field inspections, and enquiries with other parties.

If the Conservation Regulator obtains information that a breach of the Wildlife Act or POCTA Act may have occurred, an official investigation will be undertaken. Official investigations may include site inspections, surveillance, conducting interviews and seeking expert assessment.

## Enforcement action

Section 28B of the Wildlife Act states that failing to comply with the conditions of an authorisation is an offence and can carry a penalty in excess of \$9,615 per offence (50 penalty units). Further, any disturbance to Koalas that is not covered by the authorisation and Koala Management Plan is a breach of section 58 of the Wildlife Act and can carry a penalty in excess of \$3,846 per offence (20 penalty units).

Unlawful disturbance may also be a breach of the POCTA Act, which, for aggravated cruelty, can carry a penalty of over \$96,305 or imprisonment for up to two years or, in the case of a body corporate, over \$230,772. Illegal destruction of wildlife (section 43 of the Wildlife Act) can carry penalties in excess of \$9,615 (50 penalty units) and/or six months imprisonment with an additional penalty of over \$961 for each head of wildlife. (For the year ending 30 June 2024 one penalty unit is equal to \$192.31)

If the Conservation Regulator determines that a breach (such as not meeting the conditions of the authorisation) has occurred, enforcement action will be taken consistent with the Conservation Regulator's Compliance and Enforcement Policy. The enforcement approach aims to stop the non-compliant activity, penalise non-compliance and deter future non-compliance.

The enforcement options available to the Conservation Regulator include issuing a formal written warning, suspension of authorisation, cancellation of authorisation, and prosecution for offences under the Wildlife Act and/or POCTA Act. The Conservation Regulator will exercise its discretion when applying enforcement tools to ensure that its responses are in line with its Compliance and Enforcement Policy (DELWP 2019).

The greatest harms and intentional non-compliance will be met with the strongest enforcement responses.

Each decision about response to non-compliance will be informed by past actions. This includes considering previous communications and actions with parties on specific issues.

## Communicating outcomes

Outcomes of court proceedings relating to koalas in blue gums will be published, including through the Conservation Regulator's annual reporting.

In the interests of transparency and accountability, a quarterly summary of Koala incident trends will be published on the Conservation Regulator's website.

Image Marcia Riederer



## Case studies

The following case studies are provided to illustrate how the Koala Index may be used to guide the Conservation Regulator's compliance response. The examples are hypothetical only – the Conservation Regulator's compliance response will always be based on the specific circumstances.

### CASE STUDY 1

A blue gum plantation company has been authorised to disturb Koalas based on an appropriate Koala Management Plan. The company has a **good compliance record** but has recorded **three consecutive months marginally below zero on the Koala Index**, trending to indicate a declining performance. The Conservation Regulator requests the company provides a **rectification plan** within 10 business days. The company provides a thoughtful rectification plan that outlines the process taken to determine why the incidents occurred, details of issues identified and proposed corrective actions, including a timeframe for implementation. The company's **Koala Index scores improve** in the following months and **no further action is taken**. The Conservation Regulator continues to monitor the company's Koala Index performance and compliance with authorisation conditions.

Image Marcia Riederer

### CASE STUDY 2

A blue gum plantation company has been authorised to disturb Koalas based on an appropriate Koala Management Plan. The company has an **inconsistent compliance record** of providing its records on time and has previously been issued a **warning letter** about this. In a certain month, the company records a **very low and concerning Koala Index score**. The Conservation Regulator requests the company provides a **rectification plan** within 10 business days. The company **fails to provide a rectification plan and its monthly report shows incomplete records whilst continuing to harvest**. The Conservation Regulator requests the company **to show cause** why its authorisation should not be suspended and again receives **no response**. The Conservation Regulator **suspends the company's authorisation** and commences a criminal investigation into the company's conduct.



# Appendix 1 Timber Harvesting Plans

Timber Harvesting Plan guidance for Councils and plantation owners and managers regarding the *Code of Practice for Timber Production 2014*

*The Code of Practice for Timber Production 2014* (the Code) is an incorporated document in the Victorian Planning Provisions. The Code must be complied with to the satisfaction of the responsible authority, generally the local government authority (e.g. council) responsible for administering the local planning scheme.

A Timber Harvesting Plan must be submitted by plantation owners or managers to the relevant council not less than 28 days prior to the commencement of timber harvesting operations.

## Existing Code requirements

Under clause 4.5.1.2 of the Code, when preparing a Timber Harvesting Plan the following issues must be addressed:

- i protection of relevant environmental and cultural heritage values;
- ii methods to minimise impacts on water quality and river health from timber harvesting and associated roads; and
- iii any necessary arrangements with the distribution authority for the electrical operational control of power lines during harvesting.

Further, under clause 4.5.1.3, the Timber Harvesting Plan must include:

- i landowners name and address
- ii the months during which operations are to occur;
- iii estimated timber volumes to be harvested;
- iv proposed haulage routes;
- v a map showing:
  - the plantation or coupe location;
  - significant features within the coupe boundary including waterways and any areas reserved or specifically managed for protection of biodiversity or cultural heritage values;
  - the area(s) to be harvested;
  - new or upgraded roads;
  - power lines;
  - plantation infrastructure
- vi conditions applying to the timber production operation, including any permit conditions where required; and
- i fire protection measures.

## Additional information recommended by the Conservation Regulator

If a blue gum plantation owner or manager wants to use a Timber Harvesting Plan to satisfy the information assessment needs of the Conservation Regulator, their plan would need to include the following:

- Harvest and spotter contractors.
- Plantation height and age.
- Expected Koala density.
- Predicted Koala spotting difficulty.
- Specific risks identified and mitigation measures.
- Estimated harvest rate per day (hectares).
- Subsequent land use.
- Proposed stump treatment.
- Harvest system.
- Number of harvesters.
- Operating hours.
- Shift length and number of shifts per day.
- Number of spotters at start of operation.
- Veterinary or wildlife rehabilitator contacts.
- Harvest sequence.
- Maps which shows surrounding landscape (including identifying plantations, native vegetation, farmland etc.), harvest sequence and direction of harvest, planned Koala dispersal direction.

The following table provides the rationale and expectations for the additional information recommended by the Conservation Regulator. For further information, visit the Conservation Regulator’s website at [conservationregulator.vic.gov.au](http://conservationregulator.vic.gov.au)

<b>Additional information</b>	<b>Rationale</b>	<b>Expectations</b>	<b>Additional information</b>	<b>Rationale</b>	<b>Expectations</b>
<b>Harvest and spotter contractors</b>	Clear roles and responsibilities.	Harvest and spotter contractors are appropriately trained and experienced.	<b>Number of harvesters</b>	Understand intensity of harvest and how Koalas can disperse.	Number of feller bunchers and number of single grips.
<b>Plantation height and age</b>	To understand the maximum height and approximate leaf density that spotters will be looking for Koalas in.	Plantation height and age is clearly stated.	<b>Operating hours</b>	Indicates environmental conditions and how easily Koalas will be detected.	Operating hours should vary due to light and weather conditions.
<b>Expected Koala density</b>	To indicate approximate numbers of Koalas that will be displaced.	Koala density will be the result of pre-harvest survey and is expressed as number of Koalas per hectare.	<b>Shift length and number of shifts per day</b>	Shift lengths for spotters must consider fatigue.	Factors in risk of fatigue and health and safety concerns.
<b>Predicted Koala spotting difficulty</b>	Understand likelihood of Koalas being detected.	High, medium or low and reason why.	<b>Number of spotters at start of operation</b>	To understand the risk assessment at the site.	The number of spotters will be proportionate to the number of Koalas on site.
<b>Specific risks identified and mitigation measures</b>	Understand likelihood of Koalas being detected.	Specify other factors that may impact Koala detection and how they will be mitigated.	<b>Veterinary or wildlife rehabilitator contacts</b>	Contact details are on hand in the event of a Koala incident.	A vet or wildlife rehabilitator will be contacted immediately in the event of a Koala incident.
<b>Estimated harvest rate per day (hectares)</b>	To understand area that spotters must cover.	Estimate of hectares harvested per day.	<b>Harvest sequence</b>	To indicate the direction that Koalas are likely to retreat.	Harvest sequence encourages Koalas to move towards alternate suitable habitat.
<b>Subsequent land use</b>	To plan for handover and implications for Koalas and habitat	Clear explanation of land use after harvest, including if handed back to landowner.	<b>Map shows site and surrounding landscape</b>	Consider the landscape context of the plantation and ensure that the Koalas on site will be able to disperse and have food and safe refuge at completion of harvest.	Map to identify plantations, native vegetation, farmland etc. both on the site and on neighbouring properties. Map to show the harvest sequence and direction of harvest, and planned Koala dispersal direction.
<b>Proposed stump treatment</b>	To understand potential impacts on Koalas.	List proposed coppice treatment such as spraying.			
<b>Harvest system</b>	Different harvest systems pose different threats to Koalas.	List machinery to be used and whether gullets will be cut at night.			



## Appendix 2 Koala Index

The Koala Index was developed by the Arthur Rylah Institute for Environmental Research with a generalised linear model (GLM) using a Poisson distribution (Zuur, Ieno, and Smith 2007). The mean Koala incident rate is based on historical Koala incident and population data and estimated using the model.

### Calculating the Koala Index

To calculate the Koala Index, the Koala incident rate must first be determined. The Koala incident rate ( $u_t$ ) is calculated over a time period ( $t$ ) by dividing the total number of Koala incidents by the total number of Koala observations, as per the formula below (refer to Table 1 for variables):

$$u_t = \frac{x_t}{h_t}$$

The Koala incident rate ( $u_t$ ) is then used to calculate the Koala Index ( $z_t$ ), as per the formula below (refer to Table 1 for variables):

$$z_t = \frac{\bar{u} - u_t}{\sqrt{\frac{s_u^2}{h_t}}}$$

**Table 1** Variables used to calculate the Koala index ( $z_t$ )

Variable	Definition
$u_t$	Koala incident rate over time $t$
$x_t$	Total number of koala incidents over time $t$
$h_t$	Total number of koala observations over time $t$
$z_t$	Koala index over time $t$
$\bar{u}$	<b>Mean Koala incident rate</b> A value set annually using Koala incident data from operational blue gum plantations. Note: this figure is expressed as expected incidents per 100 observations and may change as collection and reporting of data refines the model.
$s_u^2$	<b>Variance in Koala incident rate</b> A value set annually using Koala incident data from operational blue gum plantations. Note: this is a measure of the amount of variability in Koala incident data and may change as collection and reporting of data refines the model.

Once the Koala Index has been calculated using the formula above, comparisons over time can be displayed on a line graph, with Koala Index on the y-axis and corresponding time period on the x-axis. For example, if the Koala Index is calculated on a monthly basis, comparisons between months can be displayed (refer to the [case study](#) on the following page).

### Assessing compliance using quality control indicators

The Koala Index provides an indication of a blue gum plantation company's operations against the expected Koala Index (determined from the mean Koala incident rate across the industry) allowing for an assessment of non-compliance. In general, a Koala Index of zero or greater indicates that the management measures being implemented are at a level that is equal to or better than the industry average (i.e. management measures are effective in reducing Koala incidents). If a Koala Index is less than zero (i.e. negative), the number of Koala incidents occurring across the blue gum plantation company's operations is poorer than the industry average.

The industry average will be reviewed on a needs basis, noting that the index will only be recalibrated where there has been a material change in industry performance.

The industry is expected to focus on continuously improving its performance. Negative Koala Index results indicate a need to explore options for remedial action.

If the Koala Index results are consistently poor or severely low, there is a set of quality control indicators that determine the conduct to be non-compliant. These are consistent with standard rules used in quality control (Nelson 1984). If one or more of the quality control indicators listed in [Appendix 2](#) are met, the authorisation holder is considered not in compliance with the conditions of the authorisation (including the Koala Management Plan). This level of non-compliance may result in enforcement action.

### Quality control indicators

The Koala index is less than -3 on one or more occasions.

The Koala Index is less than -2 at two of three consecutive time periods.

The Koala Index is less than -1 at four of five consecutive time periods.

The Koala Index has been below 0 for eight consecutive time periods.

The Koala Index has been steadily decreasing for six consecutive time periods.

The Koala Index has 14 points in a row alternating up and down.

### CASE STUDY

The Koala Index for a blue gum plantation company's operation has been calculated for the months of July to January (Figure 2 – note: this is not based on real data). To determine compliance, examination against the quality control indicators is required:

Has the Koala Index been below -3 in any one month?	No
Has the Koala Index been less than -2 over two of three consecutive months?	No
Has the Koala Index been less than -1 over four of five consecutive months?	Yes
Has the Koala Index been below 0 for eight consecutive months?	Insufficient data
Has the Koala Index been steadily decreasing for six consecutive months?	No
Has the Koala Index been alternating up and down for 14 consecutive months?	Insufficient data

One of the quality control indicators is met and the Conservation Regulator commences compliance action.

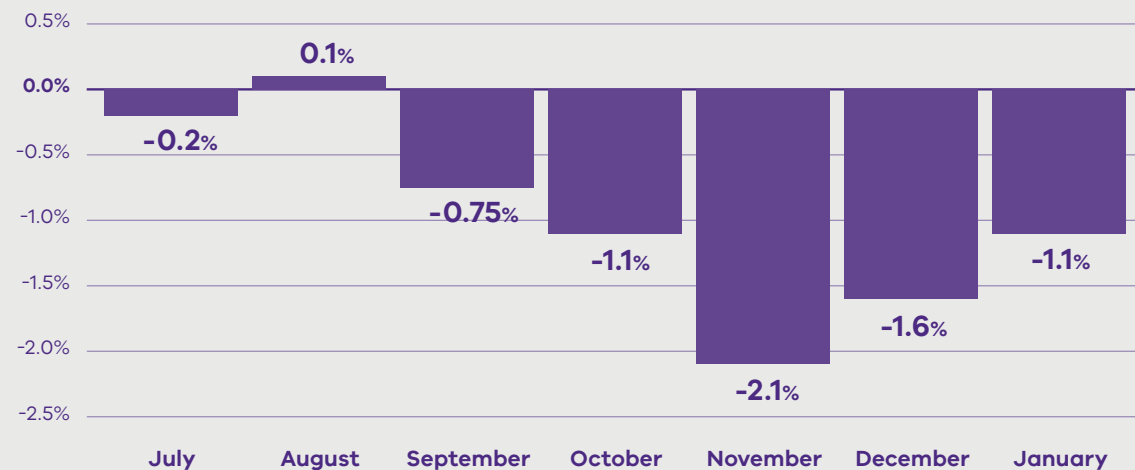


Figure 2 Example data showing the Koala Index over time. This graph is not based on real data.

# References and further information

## References

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[DELWP 2019. 'Compliance and Enforcement Policy, Office of the Conservation Regulator'](#)

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[Department of Environment and Primary Industries 2014. 'Code of Practice for Timber Production'](#)

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Image Marcia Riederer

## Further information

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[Further information on Koalas, including Victoria's Koala management strategy](#)

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[Further information on the Conservation Regulator](#)

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[Information on the regulation of timber harvesting, including the Code of Practice and associated management guidelines](#)





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