VicForests Strategy

VicForests Strategy for Assessing and Maintaining High Conservation Values

Consultation Draft 2

This Consultation Draft High Conservation Value Strategy is available for feedback until 31 January 2015.

Supporting documentation and maps for this strategy are available on VicForests website.

Stakeholder Feedback on this Draft Strategy should be emailed to vfs.fsc@vicforests.com.au or write to:

FSC Engagement
P.O. Box 191
Melbourne Vic 3001

A final HCV Assessment and Management Plan, incorporating stakeholder feedback, are intended for release in June 2015.

October 2014
Version 2.0

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Table of Contents

1. Executive Summary

VicForests has undertaken a comprehensive preliminary assessment of the forest areas within its Forest Management unit (FMU) of approximately 1.82 million hectares using FSC Australia's High Conservation Values Evaluation Framework (March 2013). FSC Australia have developed this framework for use by Forest management organisations like VicForests in the context of implementing FSC certification to the FSC Principles and Criteria and Controlled Wood standards.

This strategy document communicates to stakeholders the processes undertaken by VicForests in identifying High Conservation Values and provides outcomes of our preliminary assessment with proposed management actions to ensure they are maintained and / or enhanced.

As a consultation draft, VicForests will further engage with all interested and affected stakeholders, including experts regarding this strategy with a view to refine our approach to assessment, management and monitoring of HCV and ensure all HCV have been appropriately identified.

In undertaking the preliminary assessment, a comprehensive list of information and data were reviewed and analysed, including the Victorian Government response to the Leadbeaters Possum Advisory Group (LBPAG) recommendations. Significant forest areas containing High Conservation Values were identified by VicForests within HCV categories 1, 3, 4, and 6.

HCV Category	Area (Hectares)	No. Sites
HCV 1 Forest areas containing globally, nationally or regionally significant concentrations of biodiversity values	8,500	Numerous
HCV 2 Forest areas containing regionally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.	0	Nil
HCV 3 Forest areas that are in or contain rare, threatened or endangered ecosystems	6,700 (Rainforest) 34,500 (Modelled Old Growth)	Numerous
HCV 4 Forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).	50,500	6
HCV 5 Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).	0	Nil
HCV 6 Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).	300,000 (Cultural Significance)	Numerous

VicForests view the process for HCV identification and assessment as an ongoing requirement, needing continuous refinement and evaluation of available information. HCV Assessment in particular does not result in a once off, absolute outcome in which all HCV's are located and mapped from the outset. The current assessment results are based on the best available information and provide a landscape-level view to where HCV forests are potentially located, and these results are used to support VicForests subsequent multi-scaled desktop and field-based pre-harvest survey approach.

VicForests have proposed additional management conditions within and surrounding these identified forest areas to ensure the values they contain are maintained and / or enhanced.

HCV Category	Proposed additional management conditions
HCV 1	Harvesting to be conducted win accordance with Special Management Plan In Ash Forest types adjacent to these areas, apply non-clear-felling silvicultural systems wherever practical
HCV 2	*Not Applicable*
HCV 3	Harvesting is excluded within all Rainforest Stands ***Proposed*** Management of Modelled Old Growth Forest Areas – *See Proposed Assessment and Management actions* (Page 49-50)
HCV 4	Harvesting area limits and access restrictions will apply More transparent harvest planning, compliance reporting and monitoring procedures
HCV 5	Manage affected stakeholders rights through a proposed new "Legal Rights and Uses Procedure", to be developed through FSC consultation process.
HCV 6	Full protection of confirmed Culturally Significant Sites within these Forest Areas More transparent harvest planning, compliance reporting and monitoring procedures

2. Glossary of Terms and Acronyms

Terms

“Adequately protected” means where more than 15% of any rare, threatened or endangered species habitat or ecosystem is represented within the CAR Reserve or Informal Reserve

“Value” means the term used to describe an environmental, economic, social or cultural element in an area of forest

“Candidate HCV” means any value known to exist with forested areas of Victoria’s State Forest and has the potential to be designated as a High Conservation Value should circumstances change so that it is deemed more significant and important for conservation.

“CAR Reserve System” means areas under any of the following categories of land tenure - as described in the JANIS Report - Dedicated Reserves, Informal Reserves and other areas on Public Land protected by prescription, and areas of private land where the CAR values are protected under secure management arrangement by agreement with private landholders. This reserve system is based on the principles of comprehensiveness, adequacy and representativeness;

“Coupe” means a gross area of available forest area, within which, timber harvesting or roading activities are proposed and is the source of timber products sold and delivered to customers

“Dedicated Reserve” means a reserve equivalent to International Union for the Conservation of Nature and Natural Resources (IUCN) Protected Area Management Categories I, II, III, or IV as defined by the IUCN Commission for National Parks and Protected Areas (1994). The status of Dedicated Reserves is secure, requiring action by the Victorian Parliament or in accordance with Victorian legislation for reservation or revocation. In Victoria, Dedicated Reserves include, but are not limited to, parks under the National Parks Act 1975 (Vic) and flora, fauna or nature conservation reserves under the Crown Land (Reserves) Act 1978 (Vic)

“Desktop analysis” means gathering and analysing spatial and non-spatial information to determine probable locations and extents of particular forest attributes or values.

“Field assessment” means verifying and recording information about specific values, their location and extent using methods such as direct observation transects and measurement.

“Fundamental Basic Needs” means a site or value that provides irreplaceable services to an individual or community (i.e. if alternatives are not readily accessible or affordable), and if loss or damage of this service would cause serious suffering or prejudice to affected stakeholders. Potential fundamental basic needs include unique sources of water for drinking and other daily uses; food, medicine, fuel, and building resources.

“HCV designation” means VicForests way of formally recognising a particular value as having high conservation status

“Hierarchical risk-based approach” means a proactive approach where resources and efforts are targeted at the locations or communities where greatest benefits can be achieved.

“Informal Reserve” means a reserve that contains and is managed for conservation values which unequivocally contribute to the CAR Reserve System and meets the principles for Informal Reserves as described in the JANIS Report. In Victoria, it includes, but is not limited to, the State forest Special Protection Zone.

"Integrated Forest Planning System" means VicForests integrated forest planning system for forecasting sustainable yield

Old-Growth Forest – Type 1: forest stands that are ecologically mature and contain at least 10% of the total 'Basal Area' within the oldest growth stages, usually as senescing trees, and no more than 10% of the Basal Area is within the regrowth stage, indicating this forest has been subject to negligible unnatural disturbance.

Old-Growth Forest – Type 2 (Disturbed Old Forest): forest stands that are ecologically mature and contain at least 10% of the total 'Basal Area' within the oldest growth stages, usually as senescing trees, however may contain up to 10-30% of the Basal Area as Regrowth growth phases, indicating a history of unnatural disturbance from logging or clearing.

"VicForests Reserve layer" means a GIS map of areas in VicForests FMU that cannot be harvested

Acronyms

AFS	Australian Forestry Standard, Certification Scheme
CAIR	Corrective Action Incident Report
CMR	Coupe Monitoring Record
DEPI	Department of Primary Industries and Environment
EPBC	Environmental Protection and Biodiversity Act (1999)
EVC	Ecological Vegetation Classification
FFG	Victorian Flora and Fauna Guarantee Act (1988)
FMP	Forest Management Plan
FMU	Forest Management Unit
FMZ	Forest Management Zone
FSC	Forest Stewardship Council
GPS	Global Positioning System, a system enabling navigation and recording of exact location on earth's surface
HCV	High Conservation Value
HCVF	High Conservation Value Forest
JANIS	Joint ANZECC / MCFFA National Forest Policy Statement Implementation Sub-committee
RFA	Regional Forest Agreement
SFMS	Sustainable Forest Management System
SMA	VicForests Special Management Area
SMP	VicForests Special Management Plan
SPZ	Special Protection Zone

3. Objective of this Draft Strategy

This document has been created so that all stakeholders understand how VicForests define High Conservation Values (HCV), how they can participate in helping to identify HCV, how VicForests will assess forest areas for the presence or absence of HCV and how we keep track and protect the forest containing them.

Whilst our systems of forest management focus on looking after all conservation values, this strategy recognises that some values are more significant, and may require additional measures of protection, monitoring or consultation to achieve adequate conservation.

The objectives of this draft strategy are to:

- Provide stakeholders with information about how they can assist us in further identifying High Conservation Values;
- Outline the process undertaken by VicForests to identify values that meet High Conservation Value Status;
- Outline the process by which VicForests has assessed and continues to assess the forest areas for presence or absence of HCV;
- Seek feedback from stakeholders on our proposed approach to protecting and monitoring forest assessed to contain HCV.

4. Outcomes of engagement on this Draft Strategy

VicForests will consult with all interested and affected stakeholders to incorporate information, perspectives and feedback specific to the identification, assessment and management processes described in this proposed strategy.

Specifically consultation and refinement of this strategy will lead to the following outputs:

1. A list of HCV Definitions, critical for ongoing identification and assessment of each HCV category in forest areas managed by VicForests;
2. Updated maps of potential locations forest areas containing HCV
3. A refined process for ongoing HCV assessment and consultation regarding identified HCV; and
4. A comprehensive HCV Management and Monitoring Plan.

This strategy and the processes described are not intended to produce a once off assessment of the entire forest estate managed by VicForests in an attempt to categorically identify the locations and extent of all HCV forest. It does however aim to produce a greater understanding of what ‘values’ are significant for conservation and how VicForests intends to ensure all forest is assessed appropriately for these values and when detected, how they are proposed to be responsibly managed.

5. The Context for reading this Draft Strategy

5.1. Forest Stewardship Council Certification requirements

VicForests is seeking Controlled Wood certification in 2015 with a view to seeking Forest management certification at a later date. The HCV assessment and management process is a specific requirement of FSC certification, and is required for both FSC Forest Management and Controlled Wood certification.

The FSC Controlled Wood Standard for Forest Management Enterprises FSC-STD-30-010 is an International Standard that allows forest management enterprises to provide evidence to a company or third-party certification body that the wood they supply has been controlled to avoid wood being harvested from unacceptable sources.

FSC Controlled Wood certification will provide assurance to our stakeholders that wood produced by VicForests is sourced from harvesting operations that:

- are legal;
- do not violate traditional or civil rights;
- *do not threaten High Conservation Values;*
- do not convert natural forest to plantations or non-forested areas; and
- do not contain genetically modified trees.

In addressing the criteria within the FSC Controlled Wood Standard, VicForests has developed this draft Strategy as evidence that our management activities within the FMU do not threaten High Conservation values, and will ultimately lead to a HCV management plan that includes:

a) records of an assessment to identify the presence of high conservation values within our FMU;
b) records of consultation with stakeholders in relation to the precautionary measures employed to maintain or enhance any HCV identified; and
c) a list of the high conservation values thus identified in the forests managed by VicForests, together with evidence indicating that high conservation values are not threatened by our activities.

5.2. High Conservation Value Categories

The Forest Stewardship Council (FSC) developed the High Conservation Value (HCV) concept in 1999 as a component of the FSC certification process to ensure the maintenance and/or enhancement of significant environmental and social values in a responsible forest management context. There are six internationally recognised categories of HCV:

HCV 1 - Forest areas containing globally, nationally or regionally significant concentrations of biodiversity values.
HCV 2 - Forest areas containing regionally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.
HCV 3 - Forest areas that are in or contain rare, threatened or endangered ecosystems.
HCV 4 - Forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).
HCV 5 - Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).
HCV 6 - Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

5.3. Current High Conservation Value protection in Victoria

Under the 1992 *National Forest Policy Statement*, Commonwealth, State and Territory governments agreed on broad goals for managing Australia's native forests that support the concept of sustainable forest management. The aim was to conserve biodiversity, heritage and cultural values, and at the same time develop a dynamic, competitive and sustainable forest products industry. The government's approach was guided by the Montréal Process, which is the international framework established in 1994 to monitor, measure, assess and report on national forest trends and management.

A key element of the *National Forest Policy Statement's* approach was the establishment of Regional Forest Agreements which sought a reasonable balance between conserving the forest estate and its enduring use for economic production and recreation at the regional level.

In Victoria, five 20-year Regional Forest Agreements were established between 1995-1998, each resulting from scientific 'comprehensive regional assessments' of the environment, heritage, social and economic uses and values of the forests, which involved widespread consultation with key stakeholders and the use of a set of nationally-agreed criteria for the establishment of a **Comprehensive, Adequate** and **Representative** Reserve System for Forests in Australia, called the JANIS[1] criteria.

JANIS used the following criteria to establish dedicated and informal reserves to guarantee protection of the most significant biodiversity values within Victoria's native forests and represent:

- Protection of at least 15 per cent of the pre-1750 distribution of every forest type
- Protection of at least 60 per cent of the existing distribution of each vulnerable forest type
- Protection of at least 60 per cent of the existing old-growth vegetation communities; and
- Protection of at least 90 per cent, or more, of high quality wilderness forests.

All remaining conservation values, including occurrences of rare, vulnerable and endangered species and forest ecosystems will be protected by management prescriptions, legislated rules for areas of State forests outlined within the *Code of Practice for Timber Production*.

Today, state forest areas managed by VicForests are covered by the following Regional Forest Agreements:

- *East Gippsland Regional Forest Agreement*;
- *Gippsland Regional Forest Agreement*;
- *North East Regional Forest Agreement*;
- *Central Highlands Regional Forest Agreement*.

These four agreements and the establishment of the CAR reserve system represent significant steps towards assessing and protecting the majority of High Conservation Values in Victorian Native Forests that would ordinarily be identified within categories 1, 2 and 3.

As a base-level of protection, the CAR Reserve in Victoria is high by world standards and performs a key first step VicForests' identification process for High Conservation. VicForests will use existing conservation status and the current levels of protection provided by the dedicated and informal reserve system to assess the residual risk of severe or irreversible damage to any conservation value posed by our management activities.

[1] 'JANIS' stands for the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Subcommittee, which developed the criteria

5.4. Future comprehensive regional assessments in Victoria

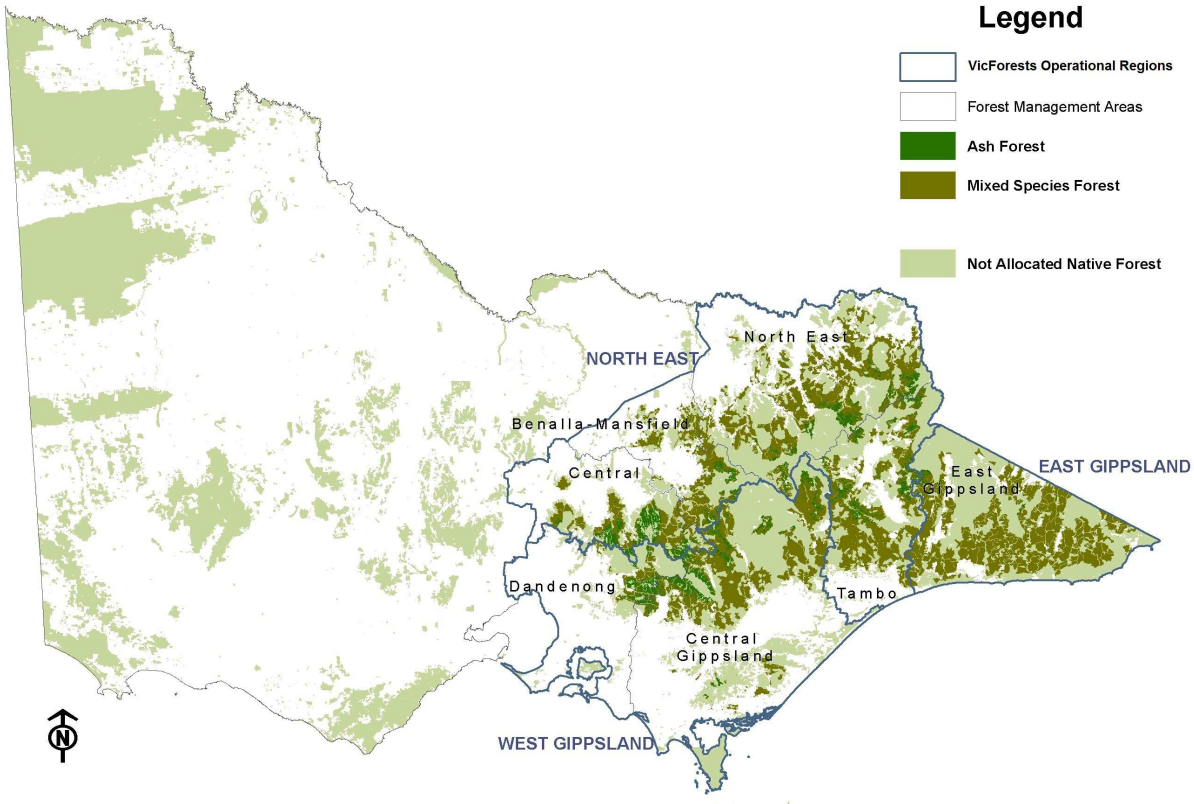
It is now around 20 years on and the Regional Forest Agreements are being reviewed by the Department of Environment and Primary Industries. Attached to this is an entire review of the informal reserve component of the CAR reserve within each RFA region. This process was initiated by the *Timber Industry Action Plan* and will take into account recent large scale effects such as wildfires that have impacted conservation and biodiversity values within the last 20 years. The JANIS criteria remain the guiding force behind these reviews, but are being enhanced in line with current community expectations and ecosystem needs.

Currently, the informal reserve system within the Central highlands RFA area is being reviewed by the Department of Environment and Primary Industries and VicForests encourages all stakeholders to participate in the process once provided the opportunity by the Department of Environment and Primary Industries. In the meantime, VicForests recognises that there are certain values that may not have adequate protection within the current reserve system. This is partly due to the fluid nature of biodiversity over time and the impacts of several recent landscape-scale bushfires across Victoria's forest estate.

Whilst VicForests welcomes the zoning review being managed by the Department of Environment and Primary industries and hopes it will contribute to strengthening this system of reserves in their current context, VicForests will continue to identify significant and important conservation values through our precautionary and rigorous planning processes and ensure they are managed responsibly.

5.5. VicForests Forest Management Unit – Scope of this Strategy

VicForests Forest Management Unit (FMU) for which VicForests is seeking Forest Stewardship Council – Controlled Wood certification is defined by the Allocation Order 2013 and consists of approximately 1.82 million hectares of State forest situated east of the Hume Highway.



The forest area vested to VicForests, comprises approximately 241,000 hectares of Ash forest[2] and 1,579,000 hectares of Mixed Species forest[3] and is exclusive of national parks, conservation reserves and special protection zones as defined within the Department of Environment and Primary Industries' (DEPI) Forest Management Zoning scheme (FMZ100 Spatial Data).

6. Understanding what makes values a 'High Conservation Value'

In general terms all natural forest areas within VicForests Available forest area are considered to provide environmental, cultural, economic and social values. Where particular attributes are considered to be of significant importance for conservation and face substantial threat of severe or irreversible damage, these can be defined as High Conservation Values (HCV).

Identifying which values should have high conservation status depends on working out which attributes or values are *significant* and *important* for conservation over and above others.

VicForests acknowledges that determining whether or not something is *significant* or whether it is *important* is inherently subjective so we have tried to develop robust, objective systems and procedures to measure these terms. We welcome your feedback on the process described in this document.

In practical terms, *significant* values are those recognised as being either unique, or outstanding relative to other examples in the same region, because of their sizes, numbers, frequency, quality, density or socio-economic importance, on the basis of existing priority frameworks, data or maps, or through field assessments and consultation *(Common Guidance for Identification of HCV, May 2013).*

Any value or attribute can be designated as HCV by considering its significance for conservation, its location within the forest and the residual threat imposed on its continued existence. The HCV Framework All potential values are herein termed 'candidate HCV' and remain as candidates until such time that the significance, its location or circumstances surrounding threats to its existence are elevated and warrant a change in status and designation as a HCV.

7. VicForests HCV Identification Process

Identifying values of significance within VicForests Forest Management Unit is the first part of protecting and managing these important values long-term. VicForests includes community engagement together with the latest scientific information and best-practice forest management processes in looking after High Conservation Values.

The objectives of the HCV identification process are to:

- consider which candidate values that are significant or stakeholders consider as significant and important for conservation;
- consider which candidate values are located within forest areas that VicForests operate within or adjacent to;
- consider existing threats to severe or irreversible damage and their associated controls; and
- designate the value as HCV within the appropriate HCV category.

[2] Table 1, Allocation Order – October 2013
[3] Table 1, Allocation Order – October 2013

VicForests process of identification is diagrammatically described in Figure 1, however essentially it comprises the following steps:

Step 1 – Determine significance and importance for conservation. We consider a designation, classification or recognized conservation status of '*Vulnerable'*, '*Endangered'* or '*Critically Endangered'* proclaimed under the Australian Federal Environmental Protection and Biodiversity Conservation Act (1999), or a designation, classification or recognized conservation status as '*Threatened*' under the Victorian Flora and Fauna Guarantee Act (1988).

Step 2 – If the value does not have a listed 'conservation status' i.e. values considered in HCV categories 4, 5 and 6, we consider information and perspectives from stakeholders in determining how significant and important the value is.

Step 3 – We consider the relevance of the value to VicForests forest management unit, for example whether its natural geographic distribution or habitat is situated in forest areas managed by us.

Step 4 – We undertake a risk assessment to understand the threats, risks and effectiveness of our systems to mitigate potential impacts to candidate HCV's, in particular whether or not the value is adequately and comprehensively represented within existing reserve systems or managed effectively through established regulatory prescriptions and rules.

After working through the steps above, if a value is designated as being HCV or an area of forest is assessed to contain HCV, then it will be treated and managed as such by VicForests.

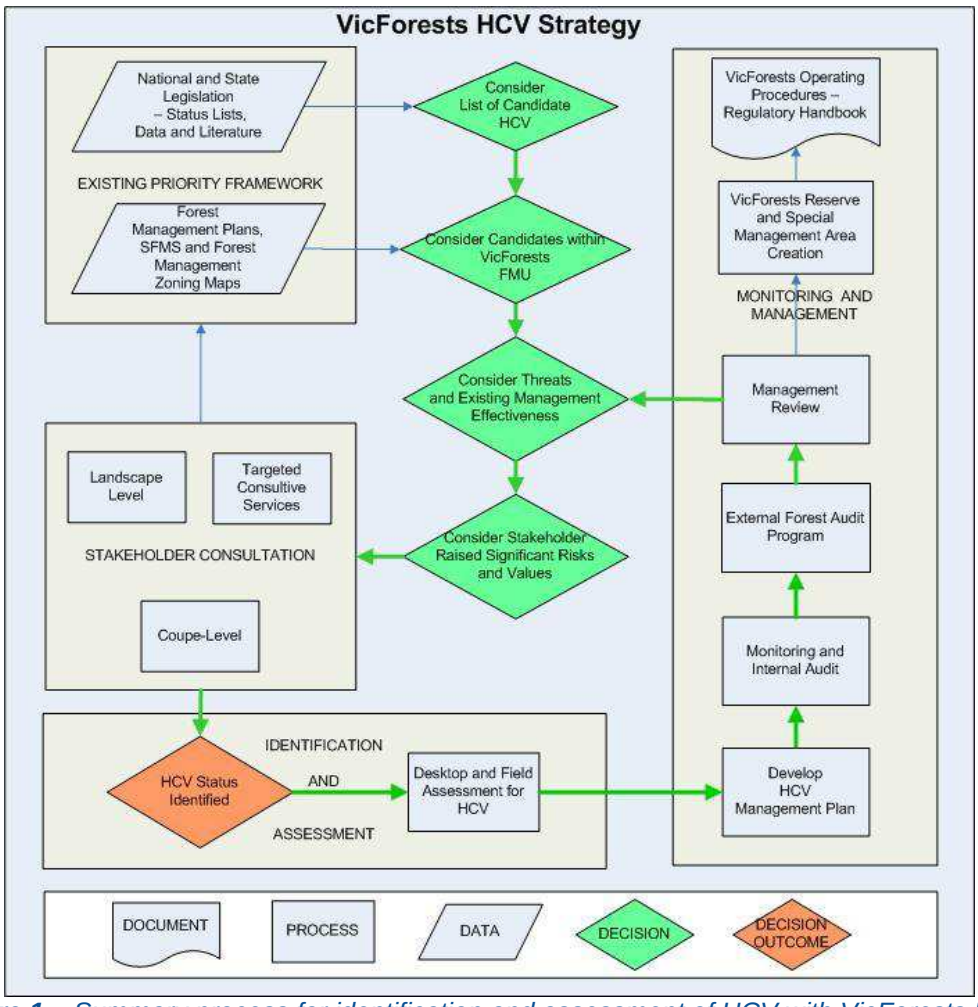


***Figure 1** – Summary process for identification and assessment of HCV with VicForests FMU.*

7.1. Understanding how VicForests determines significance of values

VicForests considers biodiversity significance with respect to threatened and endemic species that have either a legislatively listed conservation status of “vulnerable”, “endangered” or “critically endangered”, or forest areas which contain habitat ‘critical’ to the survival of these threatened species. In addition to this, areas that contain values deemed to be critically important to local communities for fundamental basic needs or traditional identity are considered significant to VicForests.

VicForests also considers the ‘rarity’ of threatened species, and whether individuals or concentrations of threatened species warrant ‘significant status’.

VicForests is keen to further our understanding of which values or areas of forest are important to stakeholders and communities, and in particular how concentrations should be determined. Our proposed consultation activities will be aimed at assisting us to define these terms, identify the values and prioritise potential areas for field assessment within our management unit.

7.2. Understanding how VicForests consider locations of values

The location of values is an important part of the identification process, as it determines relevance to VicForests as a land manager. Relevance will depend largely on where the value is known to exist or inhabit, its proximity within or adjacent to VicForests FMU.

Species’ dependency on forests or trees for habitat is a particularly important attribute to consider during this step.

7.3. Understanding how VicForests ranks threats and potential threats

The last step in the HCV identification process depends on existing threats or threatening processes that could cause severe or irreversible damage to the value or the forest containing the value(s). ‘Residual threat’ or ‘Threat Potential’ is the term used by VicForests to objectively measure effectiveness of our controls through application of our standard operating procedures and regulatory prescriptions. Monitoring and auditing the results surrounding management effectiveness in controlling threats or threatening processes of all candidate values may lead to either the review of standard procedures or the value being subsequently designated as HCV.

If audits and monitoring find recurring incidents, breaches, new risks or changing conditions not being controlled, then the threat potential will be increased. Higher threat potential will require more processes and systems of control to be put in place. VicForests record significant threats, risks and associated controls on the Environment and Social Risk Register.

VicForests will look at improving and adapting management procedures and systems if aspects or our current systems pose severe or high levels of residual threat to a value. Input from stakeholders is welcomed on our effectiveness of controlling threats to all values.

8. VicForests HCV Assessment Process

Assessment of forest areas for all values within VicForests Forest Management Unit is a standard practice undertaken by trained and experienced VicForests planning and operations staff.

Assessment for high conservation values may however require extra information, procedures and consultation before the forest area containing the value is determined and actual extent confirmed and mapped.

The objectives of assessment process are:

- To determine which forest areas potentially contain elements of HCV or are positioned adjacent to other areas potentially containing HCV and could be impacted upon by VicForests managed activities;
- Further evaluate the potential locations of HCV through a multi-scaled desktop and field survey process; and
- Build a spatial record database of the locations and areas where HCV has been detected in the field and will be managed into the future.

VicForests process of assessment comprises the following steps:

Step 1 – Conduct a thorough review of the best available information, including data listed within the FSC Australia Data Directory of Information Sources.

Step 2 – Identify possible locations of HCV or HCV forests as basis for stakeholder consultation

Step 3 – Undertake landscape-level desktop assessment to consider adjacent land management objectives, condition and history of the surrounding forest

Step 4 – Undertake field assessments of the coupe proposed for timber harvesting or road construction to determine actual presence or absence of identified HCV and the extent of forest containing them (involving relevant stakeholders where appropriate)

Important Note: *Given the vast extent of forest managed by VicForests, we consider the entire process of assessment for HCV only to be completed once steps 3 and 4 have been undertaken.*

Steps 3 and 4 will generally only occur once areas are proposed on a Timber Release Plan as 'coupes', however MUST be done prior to harvesting commencement.

This strategy document provides stakeholders with outcomes resulting from Assessment steps 1 and 2, and in some cases where 3 and 4 have already been completed to date and actual locations have been determined and mapped.

8.1. Understanding the Landscape-Level Assessment process

Landscape level assessment is primarily undertaken using a GIS desktop analysis of State Government-recognised spatial data that represents potential locations, extent and status a range of forest-related attributes, land use boundaries and value records across the VicForests Forest Management Unit and adjacent land units.

Whilst not all values can be accurately assessed for using spatial data alone, landscape-level assessment for certain spatial attributes might be the first step in understanding the likelihood of a forest area within or adjacent to a proposed 'coupe' containing any conservation value, including a HCV. VicForests will then tailor subsequent assessment and survey processes based on the results of the landscape-scale analysis.

High Conservation Values that depend on land use boundaries or other geographic or topographical features such as water catchments can be quite easily assessed and recorded using GIS desktop analysis. These areas will be mapped and represented within VicForests Reserve and

Special Management Area databases and can be viewed within VicForests Interactive Map Viewer on our website.

8.2. Coupe-Level Assessment of HCV

VicForests assessment of forest areas for identified High Conservation Value elements usually begins with a general assessment of all forest values in a defined forest area, such as a *coupe* (an area VicForests allocate for harvesting or roads), using GIS desktop analysis techniques. Desktop analysis is followed by a comprehensive field-based set of procedures that are followed at various stages during the life-cycle of the 'coupe'.

The process for assessment at the coupe-level is summarised below:

- Desktop Analysis of data within any one geographic location;
- Field Assessment in accordance with VicForests Instructions or field identification guidelines;
- Precise boundary mapping of the Forest Area containing the HCV using GPS;
- Field Marking and exclusion of the HCV; and
- Updating the VicForests Reserve or Special Management Area Databases.

All forest areas assessed to contain an identified HCV are created into either a 'reserve area' or a 'special management area' and stored within the *VicForests Reserve or Special Management Area Databases* – a GIS layer that can be further referenced during landscape-level or coupe-level planning processes.

Note: The *VicForests Reserve* and *Special Management Area* Database may also contain other conservation values that were identified during desktop and field-based procedures. In each case additional protection or management actions are required for the identified values.

9. Sources of information considered for HCV identification and assessment

During VicForests process for identification of HCV, the full range of suggested references and sources of information from the *FSC Directory of Information* were considered.

National and State legislated lists are also considered during the identification process, as they form the candidate HCV's for threatened and endemic species and ecosystems.

Advisory groups, key stakeholders, scientific literature and internal documents also help VicForests determine which potential values are significant and should be designated as HCV.

At a coupe-level, relevant spatial data and maps are utilised during all future assessments for identified HCV within forest areas designated for future harvesting and roading activity.

The following represents the list of documents and data types considered during our preliminary HCV Identification and assessment process (For a full list of references refer to Appendix 5 – References*)*

Existing Priority Frameworks and Statutory Documents

- Comprehensive Adequate Reserve / Regional Forest Agreements

- National Forest Policy Statement (1992)
- Comprehensive Resource Assessment Reports for Central Highlands (1997)
- Comprehensive Resource Assessment Biodiversity Report – Central Highlands (1997)
- Sustainable Forests (Timber) Act 2004
- Allocation Order
- Code of Practice for Timber Production
- DEPI Management Standards and Procedures
- DEPI Forest Management Plans
- VicForests Forest Management Plan

International, National and State Conservation and Priority Status Lists

- IUCN Red List
- EBPC Threatened Species List
- FFG Threatened Species List (Taxa and Communities of Flora and Fauna)
- DEPI Advisory List for Threatened Species (Vertebrate and Invertebrate Fauna, Plants)

Relevant Government Spatial Data and Maps

- FMZ100 Layer (Existing CAR Dedicated and Informal Reserve and forest areas available for Timber production)
- VBA Flora and Fauna Layers (Victorian Biodiversity Atlas Threatened Species detections)
- Modelled Old Growth layer – Represents current extent of al Ecological Vegetation Communities within the oldest growth stage, with no history of significant disturbance)
- National Vegetation Biodiversity Layer (Threatened Ecological Vegetation communities)
- Modelled Leadbeaters Possum Habitat Layer
- Recreation sites and walking tracks
- Historical or cultural sites and areas of significance
- Monitoring and research locations and areas

VicForests Business Management System Policy Documents, Procedures and Databases

- VicForests Sustainable Forest Management Policy
- VicForests DRAFT Ecologically Sustainable Forest Management Plan
- VicForests Operating Procedures
- VicForests Instructions (Various)
- Environment and Social Risk Register
- Communications Register
- Alleged Breaches Register
- Stakeholder Database
- VicForests Research and Development Strategy

10. Stakeholder Consultation about High Conservation Values

VicForests engages stakeholders regularly during annual planning processes, coupe-based feedback and involvement processes and targeted advisory or consultation services. This is because we believe stakeholder involvement is key to identifying and protecting High Conservation Values in the VicForests FMU and more broadly within Victoria's State forest and national parks.

10.1. Who are stakeholders that VicForests Engage with

Stakeholders are identified through various engagement avenues and activities and also through our communications register. Once listed as a stakeholder, the ongoing relationship objectives and individual stakeholder issues are maintained in the VicForests Stakeholder Relationship Register and/or our Communications Register.

FSC identifies stakeholders into three types. These are:

1. Affected stakeholders
2. Interested Stakeholders
3. Others including Experts

VicForests will actively seek to engage all stakeholders regardless of type, however VicForests has adopted definitions from both the FSC Australia 'HCV Evaluation Framework' and the 'HCV Common Guidance for the identification of HCVs' to better understand the types of stakeholders potentially affected or interested in VicForests activities.

These definitions are critical part of the identification process to better guide the focus of consultation and finalisation of consultation outcomes and dispute or grievance resolution processes.

Affected stakeholders
These stakeholders are defined by the FSC as any person, group of persons or entity that is or likely to be subject to the effects of VicForests FSC activities.

A stakeholder is considered to be affected if any of the following applies:

- They demonstrate legal, ***customary tenure*** or ***use rights*** in State forest areas also managed by VicForests; or
- They manage or own land ***neighbouring*** or directly downstream to forest managed by VicForests; or
- They rely on values ***fundamental to meeting their basic human needs*** from forest areas managed by VicForests. A site or value is fundamental for satisfying basic necessities if the services it provides are irreplaceable (i.e. if alternatives are not readily accessible or affordable), and if loss or damage would cause serious suffering or prejudice to affected stakeholders. Potential fundamental basic needs include unique sources of water for drinking and other daily uses; food, medicine, fuel, and building resources.

Where the stakeholder does not match these descriptions, they are classified as interested.

Interested stakeholders
These are classified as any person, groups of persons, or entity that has shown an interest, or is known to have an interest in VicForests' activities. By definition this includes all affected stakeholders and any other group or individual with a declared interest.

Experts
These are people or groups of people whom are formally trained and qualified in a specific area.

The types of stakeholders VicForests consult with and involve during both strategic landscape-level and coupe-level planning processes includes, but are not limited to:

- representatives from the local communities;
- direct neighbours;
- aboriginal groups;
- government agencies;
- environmental non-government organisations;

- education and research bodies; and
- the forestry industry.

If you wish to become a stakeholder registered on our database, you can submit your details using either the online query or Community Feedback Form on the VicForests External Website www.vicforests.com.au

10.2. How can stakeholders be involved with HCV identification and protection

VicForests High Conservation Value Consultation will be orientated towards key stakeholders that are affected or interested by VicForests management of HCV. It aims to ensure that all stakeholders are appropriately, efficiently and effectively consulted in order to optimise VicForests HCV definitions, assessment processes and application of relevant precautionary measures.

Specifically the consultation objectives are to provide understanding of and enable improvement of the following:

1. HCV definitions within the Victorian Native Forest context;
2. Potential locations of sites or areas containing HCV,
3. VicForests HCV assessment process;
4. Seek, capture and apply appropriate feedback on VicForests precautionary measures; and
5. Seek, capture and apply on the monitoring and reporting VicForests will enact for the measures it has implemented for ensuring HCV is maintained and /or enhanced.

Specifically the consultation will lead to the following outputs:

1. A list of HCV Definitions, critical for identification and assessment of HCV
2. Maps of potential locations of HCV or HCVF
3. A refined process for HCV Assessment
4. A finalised HCV management Plan

For more information regarding VicForests proposed HCV consultation opportunities, please visit our website.

Other Consultation opportunities

The Timber Release Plan (TRP) development process also provides all stakeholders an opportunity at least annually to provide feedback and information regarding values important to them.

TRP consultation may lead to new reserve area creation through newly communicated locations of threatened species or knowledge regarding a basic community need from a specific area of forest.

VicForests also encourages third party detections and communication of threatened species to be forwarded to VicForests for consideration and verification. Whilst these will also be forwarded to the Department of Primary Industries and Environment, VicForests will also investigate third party sightings which could lead to establishment of special management areas or reserves that VicForests create.

Targeted Advisory or Consultation Services

Research and educational bodies or advisory groups whom are experts in aspects of threatened species or communities surveying may be engaged to provide direct input into our knowledge of where threatened species or communities exist within the landscape. Verified sightings of key threatened species may lead to establishment of new 'reserve areas' or 'special management areas' or ultimately complete exclusion from the VicForests FMU as a 'DEPI-Managed' Protected Area.

The types of stakeholders VicForests consult with and involve during strategic landscape level or, coupe-level planning processes include but are not limited to representatives from the local communities, direct neighbours, aboriginal groups, government agencies, environmental non-government organisations, value experts from education and research bodies and forestry industry.

10.3. What information is available to stakeholders

VicForests appreciates that *what* information and *how* it is made available currently is an aspect of stakeholder engagement processes we are keen to improve.

VicForests will make available the mapped areas of identified HCV to all stakeholders via an interactive web-based map, which can be accessed via our webpage at www.vicforests.com.au.

Upon request, VicForests can also make available electronic copies of our Procedures, Instructions and Plans, some of which are already available for downloading via our website.

11. Understanding how VicForests will manage and protect HCV

The precautionary principle is seen as an important tool for ecologically sustainable forest management, countering a tendency to overlook scientific uncertainties in an unscientific manner (Cooney 2004). This principle provides a policy basis for the anticipation, prevention and mitigation of serious threats to the environment.

In respect to HCV management this principle is engaged by VicForests where:

a) there is a real threat of serious or irreversible damage to the identified HCV; and
b) the threat is attended by material scientific uncertainty as to the damage to the environment or specific value.

If, when planning to undertake timber harvesting operations VicForests determines both (a) and (b) are apparent, then there is consideration given to the following questions in determining whether standard management practices adequately cater for protection of the HCV:

- is the threat of serious or irreversible damage to the HCV negligible?;
- is the threat of serious or irreversible damage to the HCV able to be addressed by adaptive management?; and
- is the measure proposed to be implemented proportionate to the threat?

Consideration of these questions when assessing whether areas planned for harvest are done so in a manner that is consistent with the precautionary principle is central to VicForests ecologically sustainable forest management approach.

11.1. How VicForests determines threat of severe or irreversible damage

VicForests precautionary approach considers the extensive dedicated and informal reserve system, and supportive protective legislation as the key adaptive management required to proportionately manage the threat of harvesting in areas where there is a risk to cause irreversible environmental damage. These landscape wide zoning and in-field prescriptive management requirements are inherently precautionary in their approach, and designed to comprehensively and adequately represent the most significant of conservation values.

VicForests risk assessment framework is aimed at determining if the threat of severe or irreversible damage to significant values considered important for conservation has not been managed adequately by the existing dedicated or informal reserves or associated management prescriptions outlined within the Code of Practice for Timber Production.

VicForests has developed a threatened species management framework that is complementary to the measures described above, and seeks to further reduce the risk of causing irreversible damage to the environment. *(Refer to the VicForests Instruction – Pre-Harvest Fauna Survey)*

This management framework applies to all forest values, regardless of status, however those that have HCV status will generally have additional management objectives and measures in order to protect the value.

11.2. Management objectives and strategies for identified HCV

Management objectives and strategies for preventing or reducing the threat of serious or irreversible damage to forest values that have been designated with HCV status are centralised around the precautionary principle. That is, all forest values automatically require management in line with the standard operating procedures and legislated regulations, however in cases where there is some level of uncertainty regarding the impact of a threat or effectiveness of the formal reserve system, it is necessary to develop additional processes, engagement protocols, research and monitoring programs or extra prescriptive management measures to minimise the threat of severe or irreversible damage on the value.

VicForests has also developed its own reserve system that complements the existing formal reserve system managed by DEPI. Within this system, VicForests will designate forest areas specifically to protect HCV's and forest areas that require management under special conditions. In association with these Reserve Areas and Special Management Areas, VicForests will also develop a corresponding Special Management Plan's (SMP), which clearly articulates the value requiring special management or protection and the objectives and monitoring processes to be followed.

Depending on the threat, or element of uncertainty, some management strategies will be aimed at increasing awareness and knowledge of staff that assess for these values in the field, as well as supporting the scientific community in increasing overall understanding of the value and how to best to manage it.

11.3. How VicForests manages candidate or potential HCV

Management of candidate HCV is described within the *VicForests Operating Procedures – Regulatory Handbook*. This document summarises all of the mandatory actions and standards resulting from supportive regulatory instruments such as the *Code of Practice for Timber production*, *Forest Management Plans*, DEPI Management Standards and Procedures, *FFG Action Statements* and any additional VicForests protective requirements.

Effective management of these values is implied through appropriate application of the prescriptions described in the *VicForests Operating Procedures – Regulatory Handbook*.

12. HCV Assessment Overview in context of VicForests Forest Management Unit

12.1. Summary of HCV identified within VicForests FMU

HCV Category	HCV Element	Identified Within FMU*
HCV 1 Globally, regionally or nationally significant concentrations of biodiversity values	HCV1.1 Protected Areas	Yes
	HCV1.2 Threatened and Endangered species	Yes
	HCV1.3 Endemic species	Yes
	HCV1.4 Critical temporal use	No
HCV 2 Globally, regionally or nationally significant large landscape level forests	HCV 2.1 Wilderness Areas	No
HCV 3 Forest areas that are in or contain rare, threatened or endangered ecosystems	HCV3.1 Extant Rainforests HCV3.2 Old Growth ecosystems	Yes
HCV 4 Forest areas that provide basic services of nature in critical situations	HCV4.1 Forests critical to water catchments	Yes
	HCV4.2 Forests critical to erosion control	No
	HCV4.3 Forests providing barriers to destructive fire	No
HCV 5 Forest areas fundamental to meeting basic needs of local communities	HCV 5.1 Unique/main sources of water for drinking and other daily uses	No
	HCV 5.2 Unique/main sources of water for food crop irrigation	No
	HCV 5.3 Unique/main sources of other forest products	No
HCV 6 Forest areas critical to local communities' traditional cultural identity	6.1 Culturally Sensitive Forests	Yes

*For a full list of VicForests Identified High Conservation Values, refer to Appendix 1.

13. Monitoring and Review of HCV assessment and management

13.1. Landscape Level Monitoring

Landscape scale biodiversity monitoring

Monitoring seeks to observe patterns over time, of which observations will generally be on cumulative changes or trends. Information collected over long-term monitoring projects contributes to the creation of baseline datasets, assisting with VicForests understanding of a suite of forest biodiversity communities. Monitoring is particularly important for the maintenance and enhancement of HCV, as key processes that may effect ecosystem health and functionality often operate across broad ecological timeframes, which monitoring has the greatest potential to detect.

VicForests biodiversity monitoring projects focus on recording changes overtime (5-10 year periods) with an aim to determine the effectiveness of various management decisions as well as inquiry into biodiversity patterns associated with human induced and/or natural environmental change. For species or communities that occur across large areas or require large areas for their survival, VicForests has implemented a further level of monitoring which assesses the presence of biodiversity values, including HCV across the landscape. This approach to monitoring allows a consideration of the spatial and temporal variability inherent in natural systems, while providing valuable information that can be fed into the planning and decision making process. This approach acknowledges that traditionally, forestry has often concerned itself with individual stands, with less emphasis on issues that occur across larger spatial scales, even though some of these are of overwhelming importance (Kohm and Franklin, 1997).

Internal and External Audits
VicForests monitors whether staff are conducting the required level of monitoring by carrying out SFMS internal audits. This internal audit program enables VicForests to address the following questions:

- Does VicForests have an appropriate forest management system that meets prescribed business and certification requirements?
- Is the SFMS being used and understood by all VicForests' staff?
- Is the SFMS leading to effective and improved forest management outcomes?
- Where the system is not effective, does this lead to positive change in addressing these deficiencies?

AFS Certification Audit
VicForests currently holds certification under the Australia Forestry Standard and is audited regularly in order to ensure VicForests management and planning systems meet the agreed criteria under this certification scheme.

Social and Environment Risk Register
The VicForests Social and Environment Risk Register record all of environmental or social risks and associated controls. The register is reviewed annually as part of the Management Review.

Communications Register
The VicForests Communications Register records communications with stakeholders and enables broad analysis of what issues and values are considered important and of interest to stakeholders.

13.2. Coupe-Level Monitoring

VicForests' Internal Monitoring Records and Registers
Internal monitoring records such as Corrective Action Incident Reports (CAIR), Coupe Monitoring Records (CMR's) and internal registers for recording communications with stakeholders and alleged legal breaches provide vital information that influences HCV Identification and the effectiveness of VicForests management for HCV's.

Monitoring records and centralised registers ensure that compliance and issues information is captured and stored in a standard, accurate and efficient manner that meets VicForests' business requirements.

DEPI Forest Audit Program
DEPI Audit VicForests planning and operations against the mandatory actions of the Code of Practice for Timber Production and the Management Standards and Procedures.

A random sample of coupes are nominated by DEPI, whom then audit all relevant aspects of the coupe planning cycle and performance against standard operating procedures.

Results are compiled and analysed annually and considered as part of VicForests Annual Management Review. Corrective actions relating to biodiversity or other potential or existing High Conservation Values will be recommended as part of the Management Review.

13.3. Targeted Research and Process Development

VicForests acknowledges the value of research in assisting to answer key questions around a range of HCV management issues, including threatened species distributions, habitat requirements and subsequent management outcomes. While investigating the potential impacts of timber harvesting on HCV is also an area of importance. VicForests approach to Biodiversity research and monitoring is outlined and discussed further in the document *VicForests Biodiversity Research Strategy*.

Research is a key component of VicForests HCV strategy and on-going continual improvement, while there is also inherent value in engaging with the scientific community and having the ability to contribute to the debate around sustainable forest management.

VicForests supports and is directly involved in a series of targeted research programs aimed at further enhancing or developing processes for detection and management of threatened species some of these are listed below, however a longer list of proposed monitoring and research projects can be found in *VicForests Biodiversity Research Strategy*.

13.4. VicForests Management Review

Using an Annual Management review process, VicForests highlights performance deficiencies, key areas for improvement within its current standard operating procedures and recommended corrective actions to manage new risks or threats and inform the HCV identification process.

VicForests certified Sustainable Forest Management System and Annual Review Process utilises key risk management and value identification processes, including:

- Instructions, Guidelines, Procedures and checklists;
- An Environmental and Social Aspects and Impacts Register;
- A Communication and Relationship Registers to track all Stakeholder Engagement
- Corrective Action and Incident Reporting;
- Alleged Breaches from third parties; and
- Forest Audit and Monitoring Programs.

Following the Annual Management Review process a report is finalised and the outcomes of the review and recommended areas of improvement and actions will be reported. This process further facilitates an update and improvement to the following procedural documents, management plans and associated data:

- VicForests Sustainable Forest Management System Documents
- VicForests High Conservation Values and Associated Management Plans
- VicForests Operating Procedures
- VicForests Reserve Area and Special Management Area Data.

HCV1 – Forest areas containing globally, regionally or nationally significant concentrations of Biodiversity values

Background

It is widely recognised that Victorian forests, contain many conservation values. HCV 1 is aimed at recognising significant concentrations of biodiversity values, such as species which are endemic, rare, vulnerable or endangered.

Threatened Species in particular are important conservation values. The Common Guidance for the Identification of HCV's (Brown et al.2013) states that HCV1 areas within the FMU are those which contain significant concentrations of globally, regionally or nationally significant threatened species, which can be individuals or numbers of species. The document clarifies that a sighting or recorded presence of a threatened species does not necessarily qualify as HCV. This philosophy was also adopted by JANIS and during the establishment of Victoria's Comprehensive Adequate Representative Reserve System and associated informal reserves such as Special Protection Zones.

JANIS set criteria that aimed to ensure the most significant biodiversity values are comprehensively and adequately represented within the dedicated and informal reserves, and identifying locations outside of these protection areas that can be used to meet timber production objectives.

Criteria
(1) As a general criterion, 15% of the pre-1750 distribution of each forest ecosystem should be protected in the CAR reserve system with flexibility considerations applied according to regional circumstances, and recognising that as far as possible and practicable, the proportion of Dedicated Reserves should be maximised (see Section 4).

Reductions in the 15% criterion may also be appropriate on a case by case basis where biodiversity conservation objectives can be demonstrated to be met with a lesser area, for example where a forest ecosystem is extensive and relatively uniform or where a forest ecosystem is subject to low intensity resource use and has demonstrated resilience and stability.

Forest ecosystems occurring in isolated small areas within a disturbed landscape, or distributed in patches throughout other forest ecosystems, might be more efficiently protected by other types of reserve.

It is inherent in this criterion that those forest ecosystems that are most severely depleted are protected to a greater extent. To some extent therefore, endangered and vulnerable forest ecosystems identified under criteria (2) and (3) are addressed by this criterion.

(2) Where forest ecosystems are recognised as vulnerable, then at least 60% of their remaining extent should be reserved. A ***vulnerable forest ecosystem*** is one which is:

> ***i) approaching a reduction in areal extent of 70% within a bioregional context and which remains subject to threatening processes; or***
> ***ii) not depleted but subject to continuing and significant threatening processes which may reduce its extent.***

Vulnerable ecosystems include those where threatening processes have caused significant changes in species composition, loss or significant decline in species that play a major role within the ecosystem, or significant alteration to ecosystem processes.

(3) All remaining occurrences of rare and endangered forest ecosystems should be reserved or protected by other means as far as is practicable.

A ***rare ecosystem*** is one where ***its geographic distribution involves a total range of generally less than 10,000ha, a total area of generally less than 1000ha or patch sizes of generally less than 100ha***, where such patches do not aggregate to significant areas. This criterion is to be applied within a bioregional context having cognisance of distribution in adjoining bioregions. It should be noted that rarity is a naturally occurring phenomenon that does not necessarily imply that the ecosystem is under immediate threat.

An ***endangered ecosystem*** is one where ***its distribution has contracted to less than 10% of its former range or the total area has contracted to less than 10% of its former area***, or where 90% of its area is in small patches which are subject to threatening processes and unlikely to persist.

In terms of rare, vulnerable and endangered species/ecosystems it is recognised that a range of approaches ranging from reservation to prescription management and the development of species recovery plans will be needed. In practice both reservation and prescription management such as through Codes of Practice will be required to address the range of special species/ecosystem needs.

(4) Reserved areas should be replicated across the geographic range of the forest ecosystem to decrease the likelihood that chance events such as wildfire or disease will cause the forest ecosystem to decline.

(5) The reserve system should seek to maximise the area of high quality habitat for all known elements of biodiversity wherever practicable, but with particular reference to:

- the special needs of rare, vulnerable or endangered species;
- special groups of organisms, for example species with complex habitat requirements,
- or migratory or mobile species;
- areas of high species diversity, natural refugia for flora and fauna, and centres of
- endemism; and
- those species whose distributions and habitat requirements are not well correlated
- with any particular forest ecosystem.

(6) Reserves should be large enough to sustain the viability, quality and integrity of populations.

(7) To ensure representativeness, the reserve system should, as far as possible, sample the full range of biological variation within each forest ecosystem, by sampling the range of environmental variation typical of its geographic range and sampling its range of successional stages.

Forest ecosystems are often distributed across a variety of physical environments, and their species composition can vary along environmental gradients and between the microenvironments within the ecosystem.

This approach will maximise the likelihood that the samples included in the reserve system will protect the full range of genetic variability and successional stages associated with each species, and particularly those species with restricted or disjunct distributions.

(8) In fragmented landscapes, remnants that contribute to sampling the full range of biodiversity are vital parts of a forest reserve system. The areas should be identified and protected as part of the development of integrated regional conservation strategies.

HCV1.1 Protected Areas
(Nationally Agreed Criteria for the Establishment of a CAR Reserve System for Forests in Australia)

All protected areas (formal reserves outside of VicForests' estate and protected zones within VicForests' estate) are excluded under legislation from timber harvesting and are further protected under the *Victorian Code of Practice for Timber Production 2014*.

Continued protection of forest areas that are situated directly adjacent to VicForests FMU such as Parks, Conservation Reserves and Special Protection Zones that are managed by the Department of Environment and Primary Industries or Parks Victoria, require careful planning and consideration during operational activities undertaken by VicForests.

A total of 4.7 million hectares[4] of Native forest in Victoria is managed as 'Protected Areas' either as dedicated or informal 'Special Protection Zone' reserves. All of these areas are located outside VicForests FMU, however their proximity to forests areas managed by VicForests makes them a key indicator of a likely presence of HCV with our areas of proposed operations.

See **Appendix 2 – HCV Management Plans** for details on proposed management and monitoring strategies.

HCV1.2 Threatened Species

Candidate HCV Threatened Species are those listed under national legislation (Environmental Protection and Biodiversity Conservation Act 1999) or state legislation (Flora and Fauna Guarantee Act 1988). Refer to Appendix 3 – DEPI Flora and Fauna Guarantee Act 1988 Threatened List June 2013 for the list of threatened species and communities in Victoria.

Whilst forest areas catering for the most significant species have already been identified and protected within SPZ or Park and Conservation Reserves adjacent to the VicForests FMU (which are considered as part of HCV1.1 'Protected Areas') threatened species designated as HCV within the VicForests FMU are those assessed as significant and remain under potentially significant threat from VicForests operations.

Key Identification and Assessment Criteria

VicForests consider threatened flora and Fauna based the Victorian State Listed 'Threatened Species lists' under the Flora and Fauna Guarantee Act (1988) and are Nationally listed under the Environmental Protection and Biodiversity Conservation Act (1999) as 'Endangered' or Critically Endangered'.

Species NOT "Listed" under the Flora and Fauna Guarantee Act are not considered 'Significant', however they remain important for conservation and are managed through relevant management prescriptions provided within the Code of Practice for Timber Production.

Relevance

VicForests consider the relevance of individual threatened species based on its required habitat and known geographic range. Importantly, there are a vast range of threatened species that inhabit non-forested areas that are not subject to timber harvesting in addition to some species that have a known habitat range that is outside the forest areas managed by VicForests.

Threat of Severe of Irreversible Damage

[4] Department of Environment and Primary Industries (2014), *Victoria's State of the Forests Report 2013*, Department of Environment and Primary Industries, Victoria, Australia

Generally where it is not certain that the CAR reserve (protected areas) and the supporting management rules imposed by the Code of Practice for Timber Production adequately cater for the habitat requirements of each threatened species, VicForests will then consider residual risks posed by our activities and may then designate these as HCV if the threat to severe or irreversible damage is High.

Threatened flora and fauna with 'detection-based' prescriptions in the Code of Practice for Timber Production is used as a key indicator of residual threat.

Presence or Absence

Actual assessment of forests for presence or absence of significant threatened species will be conducted as part of our pre-harvest survey process and will generally focus on identifying its 'habitat' rather than the detection of individuals in the field, given this is considered a more precautionary indicator of 'likely presence'. Where 'habitat' is not well defined, or for threatened flora, detection-based surveys are used in accordance with VicForests Pre-harvest Survey Procedure.

Preliminary Assessment Results

VicForests has identified the following threatened species as significant individual species under HCV 1 that are 'relevant' to our Forests Management Unit and VicForests has proposes to implement specific management actions in order to address risks that threaten their continued existence.

1. Leadbeaters Possum;
2. Long-Footed Potoroo;
3. Spot-Tailed Quoll; and
4. Smoky Mouse

Management of HCV 1.2

See **Appendix 2 – HCV Management Plans** for details on proposed management and monitoring strategies.

HCV1.3 Endemic Species

Refer to Appendix 4 – List of Endemic Species of Victoria within the VicForests FMU for VicForests cross-reference check of endemic species within the VicForests FMU.

Significant concentrations of endemic species have been protected in existing formal reserves which are considered as part of HCV1.1 'Protected Areas' adjacent to VicForests' FMU.

A number of endemic species area also considered rare, threatened or endangered. Management of these species is described in HCV1.2 'Threatened Species'.

HCV1.4 Critical Temporal Use

There are no species that have been identified in this category.

HCV2 – Forest areas containing globally, regionally or nationally significant large landscape level forests

Background

The Comprehensives Regional Assessments (CRA) conducted as part of the RFA process used JANIS criteria to ensure protection of at least 90% of all Wilderness areas and areas of forest including significant old-growth forest in national parks, and informal reserves.

VicForests consider native forest areas and other ecological vegetation communities that are rare at the regional or finer scale within HCV Category 3.

Preliminary Assessment Results

All wilderness areas are protected within the dedicated and informal reserve system. There were no 'Wilderness Areas' assessed to be present within VicForests FMU.

HCV3 – Forest areas that contain rare, threatened or endangered ecosystems

Background

Criteria 1
All remaining occurrences of rare and endangered forest ecosystems should be reserved or protected by other means as far as is practicable.

A rare ecosystem is one where:

- its geographic distribution involves a total range of generally less than 10,000ha;
- a total area of generally less than 1000ha;
- or patch sizes of generally less than 100ha, where such patches do not aggregate to significant areas.

This criterion is to be applied within a bioregional context having cognisance of distribution in adjoining bioregions. It should be noted that rarity is a naturally occurring phenomenon that does not necessarily imply that the ecosystem is under immediate threat.

An endangered ecosystem is one where:

- its distribution has contracted to less than 10% of its former range; or
- the total area has contracted to less than 10% of its former area; or
- where 90% of its area is in small patches which are subject to threatening processes and unlikely to persist.

Criteria 2
Where forest ecosystems are recognised as vulnerable, then at least 60% of their remaining extent should be reserved. A vulnerable forest ecosystem is one which is:

- approaching a reduction in areal extent of 70% within a bioregional context and which remains subject to threatening processes; or
- not depleted but subject to continuing and significant threatening processes which may reduce its extent.

Vulnerable ecosystems include those where threatening processes have caused significant changes in species composition, loss or significant decline in species that play a major role within the ecosystem, or significant alteration to ecosystem processes.

In terms of rare, vulnerable and endangered species/ecosystems it is recognised that a range of approaches ranging from reservation to prescription management and the development of species recovery plans will be needed. In practice both reservation and prescription management such as through Codes of Practice will be required to address the range of special species/ecosystem needs.

Refer to Appendix 3 – DEPI Flora and Fauna Guarantee Act 1988 Threatened List June 2013 for a DEPI list of threatened flora and fauna communities in Victoria.

Rainforest

VicForests has identified that the most significant threatened ecological vegetation class within its FMU is Rainforest Ecological Vegetation Class (EVC) and Rainforest Sites of National

Significance. Rainforest (EVC 31, 32, 33 & 34) is defined ecologically as closed (greater than 70% projective foliage cover) broad-leaved forest vegetation with a continuous rainforest tree canopy of variable height, and with a characteristic diversity of species and life forms.

The following rainforest communities are listed as Threatened under the Flora and Fauna Guarantee Act:

- Cool Temperate Rainforest Community;
- Dry Rainforest (Limestone) Community;
- Warm Temperate Rainforest; and
- Warm Temperate Rainforest (Cool Temperate Rainforest Overlap)

Rainforest ecological vegetation communities have a conservation status of 'endangered' across much of Victoria and must be identified and protected in line with *VicForests Rainforest Identification Guideline.*

Rainforest Sites of Significance are nationally significant examples of rainforest requiring a core protection area and associated sub-catchment protection area. Generally, all Rainforest Sites of Significance and their associated sub-catchment protection areas will be located outside the VicForests FMU however still require management in accordance with HCV1.1 – 'Protected Areas'.

See **Appendix 2 – HCV Management Plans** for details on proposed management and monitoring strategies.

Old Growth ecosystems (Including Giant trees)

VicForests recognises some values are found in Old Growth forests that are absent or more restricted than in Regrowth and Mature forests. VicForests also recognises that there is societal concern for "Old Growth" forest.

VicForests is supportive of Regional Forest Agreements where a minimum of 60% of Old Growth forest are protected in the permanent reserve system. In addition to the Old Growth in RFA reserves in 2008 there were further large areas of largely contiguous Old Growth forest blocks added to the reserve system in East Gippsland and the best areas with older age classes added to the Special Protection Zones in the Central Highlands. This effectively means that most of the Old Growth and older age classes are already in the permanent reserve system.

Having the most important contiguous areas of Old Growth in the permanent reserve system is appropriate given their important contribution to biodiversity and ecosystem values.

In addition to the large contiguous areas of Old Growth in the reserve system there are other smaller areas of mapped 'modelled' Old Growth forest within State forest where the current practice is to apply a precautionary approach to protection of these areas where targeted pre-harvest fauna surveys result in the detection of significant threatened fauna. While this approach addresses mapped Old Growth in potential harvesting areas, there are cases where the Old Growth values are not found on the ground. If Old Growth is not identified then additional assessment may not be warranted or if genuine Old Growth is located on the ground but not mapped then the converse may apply.

VicForests is proposing a new approach that considers identifying and further protecting the best areas of actual Old Growth forests within our Forests Management Unit.
This will be supported by a precautionary approach applied to younger forest stands, that considers future recruitment of older trees across the landscape.

Proposed Definitions of Old Growth Forests for Field Assessment:

Old-Growth Forest – Type 1: forest stands that are ecologically mature and contain at least 10% of the total 'Basal Area' within the oldest growth stages, usually as senescing trees, and no more than 10% of the Basal Area is within the regrowth stage, indicating this forest has been subject to negligible unnatural disturbance.

Old-Growth Forest – Type 2 (Disturbed Old Forest): forest stands that are ecologically mature and contain at least 10% of the total 'Basal Area' within the oldest growth stages, usually as senescing trees, however may contain up to 10-30% of the Basal Area as Regrowth growth phases, indicating a history of unnatural disturbance from logging or clearing.

Preliminary HCV Assessment:

VicForests considers the Department of Environment and Primary Industries 'Modelled Old-Growth' spatial dataset (called MOG200) as the current, best available indicator of likely presence of either 'Old Growth Forests (Type 1) or Disturbed Old Forest (Type 2).

Approximately 30,500 hectares of modelled old growth vegetation types overlap VicForests Forests Management Unit. VicForests will use this layer as the basis for undertaking further detailed field assessments.

VicForests is currently seeking input on management strategies for old growth forests that occurs in areas of East Gippsland, Tambo and potentially North East Forests Management Areas.

We will formulate management strategies following the close of the current FSC consultation process.

HCV4 – Forest areas that provide basic services of nature in critical situations

HCV4.1 Forests Critical to Water Catchments

The Code of Practice for Timber Production 2007 recognises the high value of all forests as water catchments by placing various restrictions on timber harvesting to ensure that 'these services are maintained under good management'.

Whilst there are numerous Proclaimed Water Supply Catchment areas, the most significant used by VicForests have strict harvesting rate limits and are highly valued by stakeholders. The Yarra Tributaries catchments (Starvation, Armstrong, McMahons and Cement Creeks, Thomson, Bunyip and Tarago catchments managed by Melbourne Water and the Learmonth Creek catchment which is critical to the Powelltown community residents.

These water supply catchment areas have been designated as Special Management Areas by VicForests, as they require annual monitoring and adherence to harvest area limits and other management conditions specified within *VicForests Operating Procedures - Regulatory Handbook*.

See **Appendix 2 – HCV Management Plans** for details on proposed management and monitoring strategies.

HCV4.2 Forests Critical to Erosion Control

All forests within Victoria are important for erosion control. The Code of Practice for Timber Production 2007 recognises high value by placing various restrictions on timber harvesting so that erosion is minimized, thereby ensuring that 'these services are maintained under good management, a fact reflected in the requirements of most forest management standards'.

There are no specific forest areas within the VicForests FMU critical to erosion control, however VicForests does protect forest areas on slopes greater than 30 degrees in order to minimise impact of erosion from water runoff. This is generally applied during coupe-level planning and can result in additional 'reserve areas' being created within the VicForests FMU.

VicForests model the extent of forest area in our care that represent these areas, however management and exclusion is based on the actual location and extent determined during field assessment at the 'coupe-level'.

HCV4.3 Forests providing critical barriers to destructive fire

Forest areas that have designated fuel reduction objectives in order to provide asset protection and decrease threat of wildfire are quantified within Fuel Management Zones that are described in regional *DEPI Fire Management Plans.* Harvesting within these zones are either prohibited or must be conducted in a way that ensures resulting fuel loads do not exceed the Fuel Management Zone objectives.

Given the potential impacts on timber harvesting can be managed through standard procedures and regular engagement with the Department of Environment and Primary Industries, these areas are not designated as HCV.

HCV5 – Forest areas fundamental to meeting basic needs of local communities

Background

FSC Australia's High Conservation Values Evaluation Framework provides several definitions for guidance. Basic human needs are defined in the following terms:

"Local people use the area to obtain resources on which they are critically dependent. This may be the case if local people harvest food products from the forest, or collect building materials or medicinal plants. Potential fundamental basic needs include, but are not limited to: unique sources of water for drinking and other daily uses; food, medicine, fuel, building and craft resources; the production of food crops and subsistence cash crops; protection of "agricultural" plots against adverse microclimate (e.g. wind) and traditional farming practices. Forest uses such as recreational hunting or commercial timber harvesting (i.e. that is not critical for local building materials) are not basic human needs." Needs are defined as being fundamental when "loss of the resources from this area would have a significant impact in the supply of the resource and decrease local community well-being".

The HCV Evaluation Framework also notes that, "In the definition of basic needs, priority is given to potentially affected parties e.g. local community and neighbours. The forest management organisations shall implement a communications and stakeholder participation plan regarding affected parties. There is also the need to set up a dispute resolution mechanism if conflicts or disputes are present."

Criteria

Forest areas fundamental to meeting basic needs of the local community and require conservation or special management conditions are generally determined through stakeholder consultation processes and may include:

5.1 Unique/main sources of water for drinking and other daily uses;
5.2 Unique/main sources of water for food crop irrigation;
5.3 Unique/main sources of other forest products

In Victoria, stakeholders with land use or tenure rights to extract water from within public forested areas require a licence from their local government.

VicForests is proposing that these forest areas be managed under a proposed new "Land Use Rights" procedure rather than HCV Category 4, given the definitions for fundamental basic needs are not met in the Victorian context.

Preliminary Assessment Results
(Changes from DRAFT 1- HCV Strategy)

Apiary Sites

These are no longer proposed as meeting the criteria for HCV 5, however will be managed under 'Land Use Rights and Agreements with those affected stakeholders.

VicForests will consult directly with apiarists and/or their associations to effectively consider their rights and uses of state forest areas also managed by VicForests for timber production.

Cement Creek – Warburton Community

Whilst Cement Creek is considered a significant 'Water Supply Catchment' and designated a HCV under HCV 4.1, VicForests no longer considers this forest area to meet the criteria of HCV 5.

However, VicForests remains keen to consult further with Warburton community residents to better understand the values important to them within the Cement Creek Water Supply Catchment area and ensure information and perceptions they present are considered.

Mt St Leonards – Toolangi Community

There are forest areas currently within this VicForests is keen to consult further with Toolangi community residents to better manage the other community values relevant to the Mt St Leonards area.

VicForests has designated this area as a Special Management Area and invites feedback from the Toolangi community to better understand the values important for conservation in this area.

HCV6 – Forest areas critical to local communities traditional cultural identity

Background

There are potentially many indigenous cultural heritage sites located in VicForests' FMU including scarred trees, mounds, freshwater middens, stone tools and surface scatters. All indigenous artefacts are protected under the *Aboriginal Heritage Act* 2006 and their specific location is kept confidential by Aboriginal Affairs Victoria (AAV).

VicForests undertake regular consultation with Aboriginal Affairs Victoria and Registered Aboriginal Parties to ensure all culturally sensitive sites and values are protected.

The threats to these values through VicForests processes is relatively low given existing reserve system and procedures for engaging with the indigenous community are thought to manage potential impacts satisfactorily.

Preliminary Assessment Results

VicForests consulted the Government managed 'Cultural Sensitivity' database to identity areas of forest within the FMU that may contain sites or values critical to the Aboriginal communities traditional cultural identity.

Approximately 300,000 ha of State forest areas within VicForests FMU are culturally sensitive, with about 500 ha of this area is thought to contain registered aboriginal sites.

VicForests has designated this entire area as HCV 6 so as to ensure that any operations proposed within or adjacent to these areas will require additional consultation and approval of management actions to ensure any detected sites are appropriately protected.

Proposed HCV 6 areas can be viewed on VicForests interactive Map Viewer, via our website.

Proposed Management Actions

See **Appendix 2 – HCV Management Plans** for details on proposed management and monitoring strategies.

Appendix 1 – List of Identified HCV within the VicForests FMU

HCV Category	Element	HCV Identified
HCV 1 Forest areas containing Globally, Nationally or Regionally Significant Concentrations of Biodiversity	1.1 Protected Areas	CAR Reserve System – Parks, Conservation Reserves and Special Protection Zones
	1.2 Threatened Species (includes endemic)	Leadbeaters Possum Habitat
		Long-Footed Potoroo Habitat
		Spot-Tailed Quoll Habitat
		Smoky Mouse Habitat
HCV 2 Forest areas containing regionally significant large landscape level forests	2.1 Wilderness Areas	*None identified within FMU – HCV2 is considered as part of HCV 1.1*
HCV 3 Forest areas that are in or contain rare, threatened or endangered ecosystems	3.1 Extant Rainforests	Rainforest
	3.2 Old Growth	Old Growth Forests and Giant Trees
HCV 4 Forest areas that provide basic services of nature in critical situation	4.1 Critical Water Supply Catchments	Yarra Tributaries Water Supply Catchments
		Thomson Water Supply Catchment
		Tarago Water Supply Catchment
		Bunyip Water Supply Catchment
		Learmonth's Creek Catchment Area
HCV 5 Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health)	5.1 Unique/main sources of water for drinking and other daily uses	*None identified within FMU (Community stakeholders with rights will be engaged separately through establishment of our 'Land Use Rights Procedure'*
	5.2 Unique/main sources of water for food crop irrigation	
	5.3 Unique/main sources of other forest products	
HCV 6 Forest areas critical to local communities' traditional cultural identity	6.1 Indigenous Cultural Heritage	Cultural Sensitivity Areas

Appendix 2 – HCV Management Plans

HCV Element	***High Conservation Value***
1.1 Protected Areas	Parks, Conservation Reserves and SPZ
HCV Designation Context	
Listed Conservation Status:	Legislated Formal Reserve System in Victoria
Stakeholder Importance:	SIGNIFICANT
Likelihood of Occurrence within FMU:	KNOWN – VERY HIGH
Protection Adequately Managed through Formal Reserve:	UNCERTAIN
Threat from VicForests Management Activities and Decisions:	HIGH POTENTIAL
Stakeholder Concern:	Forest Area managed by DEPI or Parks Victoria, however VicForests has high potential to impact on protected areas through harvesting, roading and regeneration activities adjacent to the Formal Reserve.
VicForests Response:	VicForests engage with DEPI and Parks Victoria Regional services regularly to ensure any harvesting or roading operations within close proximity to Park or Special Protection Zones are approved and adequately protect these areas.

Description:

Forest Areas described as either Reserves or Special Protection Zones (SPZ) that sit within or adjacent to VicForests' FMU and are considered to represent significant concentrations of biodiversity values including some HCVs.

Management Objectives:

- Appropriately identify boundary of defined 'Protected Areas' that may be directly impacted upon by VicForests operations and activities and manage planned operations to ensure impacts to all reserves and SPZ's are minimised.

Threats to High Conservation Value:

Threats to the pristine nature of SPZ (and other reserves) can be either natural processes or caused by human activities. For example:

- Not following correct procedures for identifying and protecting 'protected areas';
- Harvesting or removal of forest from within a 'protected area';
- The introduction of non-native plants and animals;
- Control of existing exotic species which pose a threat to native flora and fauna;
- Fire; and
- The spread of pathogens or disease.

Much of Australia's flora and fauna has evolved with fire and relies on particular fire regimes for continued survival. Since European settlement, the timing, frequency and intensity of these fires may have changed. Although fire is a part of many ecosystems, it can be damaging, since inappropriate fires can lead to loss of native species, vegetation communities and ecosystems.

Introduced species have also caused extensive damage to Victoria's native ecosystems. They have contributed to species decline through predation, habitat alteration and competition with native species. Introduced pests also cause considerable economic losses to primary production. Burning can promote weed invasion, sometimes leading to an increased fire hazard within a short time. These problems are minimised by following relevant DEPI codes and guidelines.

It is impossible to monitor the distribution and abundance of all introduced species in Victoria. This is because the pest boundaries are not usually definitive. For example, foxes move between public and private lands, preying on both domestic stock and native wildlife. Given the number of pest plants and animals in Victoria, it is essential to prioritise strategies to concentrate on those species known to be causing significant problems or posing significant threats. Initial strategies for pests declared under the Catchment and Land Protection Act 1994, have been implemented under the *Victorian Pest Management – A Framework for Action* plan.

Management Strategies:

- Engagement with DEPI Regional Services and Parks Victoria regarding any potential operation that is planned to occur adjacent to Parks, Conservation Reserves or Special Protection Zones
- Identify and notify DEPI of forest areas containing regionally prohibited noxious weeds or significant pests and diseases

Monitoring Management Effectiveness:

- VicForests utilises the results from the DEPI Forest Audit Program and the internal SFMS Audit conducted annually.
- Monthly Coupe Monitoring Audits are to be conducted in accordance with the *VicForests Instruction – Coupe Monitoring Records.*
- Alleged breaches register also records alleged harvesting of formal reserves and special protection zones

HCV Element	*High Conservation Value*
1.2 Threatened Species	Leadbeaters Possum, *Gymnobelideus leadbeateri*
HCV Designation Context	
Listed Conservation Status:	ENDANGERED – EPBC (1998), LISTED – FFG (1988)
Stakeholder Importance:	SIGNIFICANT
Likelihood of Occurrence within FMU:	KNOWN – VERY LIKELY
Protection Adequately Managed through Formal Reserve:	UNCERTAIN (ADDITIONAL MANAGEMENT REQUIRED)
Threat from VicForests Management Activities and Decisions:	HIGH POTENTIAL
Stakeholder Concern:	Three Large landscape scale wild fires overlapping prime habitat range within the last 10 years, have decreased the amount of suitable habitat within the formal reserve system for this species. Future recruitment of suitable habitat has been severely impacted upon by fire and could be influenced by VicForests management activities and decisions.
VicForests Response:	VicForests has designated this species as HCV and has committed to protecting all verified LBP colony detection records with a non-harvestable 200m buffer in addition to protecting all Zone 1A and 1B Habitat field assessed to be within VicForests FMU, and protecting modelled old growth ash forests using a 100m buffer.

Description:

The VicForests FMU contains forest areas considered potentially suitable Leadbeater's Possum Habitat. Potential habitat areas are classed as either 'Zone 1A', 'Zone 1B' or Zone 2 (see associated documents *VicForests Guideline – Identification of Leadbeater's Possum Habitat*. Forest Areas containing Zone 1A and 1B Habitat are considered the most suitable whereas Zone 2 Habitat is considered the least suitable. The majority of Zone 1A habitat is protected within the Formal Reserve System, however additional forest areas within the VicForests FMU, if assessed to contain either Zone 1A or Zone 1B characteristics, will be protected by VicForests within the VicForests Reserve Layer.

Management Objectives:

- Assess all forest areas within FMU prior to harvesting for the potential to contain either Zone 1A or Zone 1B Habitat and exclude it and protect it from harvesting activities;
- Actively manage for recruitment and protection of future suitable habitat through alternative silvicultural methods such as Regrowth Retention Harvesting;
- Improve VicForests understanding of Leadbeater's Possum distribution and ecology through supporting Research and Monitoring programs and reservation of verified species detection records;
- Assist in the management of present and acceleration of future Leadbeater's Possum habitat;

Threats to High Conservation Value:

Natural Processes:

- Major wildfires are the biggest risk to the Leadbeater's Possum and its habitat through destruction of it's most suitable habitat.
- Not understanding the full impact of recent wildfires on the Leadbeaters Possum distribution.
- Natural decline in hollow-bearing trees suitable for supporting Leadbeaters possum

Human-Based Activities:

- Removal of suitable habitat through Timber Harvesting
- Not managing for future recruitment of hollow-bearing trees

Management Strategies:

- Forestry activity ensures there is adequate road networks and machinery available to fight wildfires that threaten Leadbeaters Possum habitat.
- Ensure VicForests staff competencies are updated regularly to ensure correct procedures for identification and assessment of Leadbeater's Habitat are understood;
- Recruit a Conservation Biologist to assist with development of research and management strategies for threatened flora and fauna and liaise with relevant species experts;
- Appoint a Biodiversity Planner in each region to improve certainty and consistency across biodiversity planning and operational management;
- Implement Retention Harvesting Systems within 50% of Ash Forest harvesting operations within the Leadbeaters possum home range
- To cater effects of recent wildfire events on potential habitat within and outside the VicForests FMU, all verified detections in the last 15 years of a Leadbeater's possum individual within the VicForests FMU are protected using a 200m non-harvestable buffer;
- Support active research and monitoring programs through reservation of monitoring sites and participating in collaborative research projects focused on the protection and maintenance of this species across the landscape.
- Implement Leadbeater's Possum Advisory Group recommended actions
- Trial and use alternative regeneration burning techniques to ensure forest areas containing potential habitat are protected.

Monitoring Management Effectiveness:

- VicForests utilises the results from the DEPI Forest Audit Program, AFS certification Audit and the internal SFMS Audit conducted annually.
- Monthly Coupe Monitoring Audits are to be conducted in accordance with the *VicForests Instruction – Coupe Monitoring Records.*
- Post-harvest and post-site preparation treatment monitoring is also used to indicate effectiveness of management and protection of forest areas or trees assessed to contain Leadbeaters possum habitat or individuals.
- Third-party field assessment results of forest areas prior to harvesting
- VicForests will report on confirmed detections and the creation of new reserves specific to this HCV through the annual Sustainability Report

HCV Element	*High Conservation Value*
1.2 Threatened Species	Long-Footed Potoroo, *Potorous longipes*
HCV Designation Context	
Listed Conservation Status:	ENDANGERED – EPBC (1998), LISTED – FFG (1988)
Stakeholder Importance:	SIGNIFICANT
Likelihood of Occurrence within FMU:	KNOWN – VERY LIKELY
Protection Adequately Managed through Formal Reserve:	UNCERTAIN (ADDITIONAL MANAGEMENT REQUIRED)
Threat from VicForests Management Activities and Decisions:	HIGH POTENTIAL
Stakeholder Concern:	Unknown impacts of historic fire and logging events to habitat range and relevance or adequacy of formal protection reserves of the Long-Footed Potoroo has been questioned by stakeholders. A court ruling in Brown Mountain also determined that VicForests was not doing enough to identify presence of Long-Footed Potoroo prior to harvesting.
VicForests Response:	VicForests has designated this species as HCV and is committed to undertaking additional pre-harvest surveys for this species prior to harvest and implementing special management plans for all verified sightings within VicForests FMU.

Description:

The VicForests Central FMU contains forest areas considered potentially suitable for Long-Footed Potoroo habitat predominantly within the North East, Tambo and East Gippsland FMA's.

Forest areas containing verified detection records of Long-Footed Potoroo individuals will form the basis for habitat suitability and requirement to retain and constrain suitable habitat in accordance with the FFG Action Statement for Long-Footed Potoroo.

Management Objectives:

- Assess forest areas with the potential to contain Long-Footed Potoroo using Pre-Harvest Fauna Survey techniques.
- Identify, protect and manage any known areas within the VicForests FMU that contain verified detections of Long-Footed Potoroo.

Threats to High Conservation Value:

Natural Processes:

- Major wildfires are the biggest risk to the Long-Footed Potoroo
- Predation by foxes, cats or wild dogs.

Human-Based Activities:

- Removal of suitable habitat and connectivity through Timber Harvesting

Management Strategies:

- Undertake pre-harvest fauna survey assessments for Long-Footed Potoroo;
- Create Special Management Plans for all verified detections within the VicForests FMU;
- Ensure VicForests staff competencies are updated regularly to ensure correct procedures for development of Long-Footed Potoroo special management area plans;
- Incorporate detection records into the DEPI-managed VBA Atlas to improve knowledge of known distribution and occurrence;
- Undertaken research with collaborative partners to further understand the habitat requirements of the species.

Monitoring Management Effectiveness:

- Monthly Coupe Monitoring Audits are to be conducted in accordance with the *VicForests Instruction – Coupe Monitoring Records.*
- DEPI Forest Audit Program results also provide information regarding effectiveness of VicForests identification and management of habitat areas for Long-footed Potoroo

HCV Element	*High Conservation Value*
1.2 Threatened Species	Spot-Tailed Quoll, *Dasyurus maculatus maculatus*
HCV Designation Context	
Listed Conservation Status:	ENDANGERED – EPBC (1998), LISTED – FFG (1988)
Stakeholder Importance:	HIGH
Likelihood of Occurrence within FMU:	LIKELY
Protection Adequately Managed through Formal Reserve:	UNCERTAIN (ADDITIONAL MANAGEMENT REQUIRED)
Threat from VicForests Management Activities and Decisions:	HIGH POTENTIAL
Stakeholder Concern:	The Spot-tailed Quoll is the largest carnivorous marsupial on mainland Australia. This species is likely to inhabit forest areas potentially available for Timber Harvesting and unlike birds, require forested areas to move throughout their large home range (of up to 4500ha). Connectivity between formal reserves and forest areas assessed to contain Spot-Tailed Quoll or potential den sites are essential for this species survival.
VicForests Response:	VicForests has designated this species as HCV and is committed to undertaking additional pre-harvest surveys for this species within the VicForests FMU.

Description:

Forest Areas containing den or latrine sites or verified detections of Spot-Tailed Quolls

Management Objectives:

- Protect verified den and latrine sites from timber harvesting and roading activities, ensuring known sites are not isolated form other forested areas.

Threats to High Conservation Value:

Human-Based Activities:

- Removal of suitable habitat through Timber Harvesting

Management Strategies:

- Undertake pre-harvest fauna surveys for the Spot-Tailed Quoll
- Undertake landscape-scale monitoring for the species, to further understand distribution across the forest estate.
- For verified detections, designate up to 1500ha of suitable habitat management within a 'Special Management Area, whereby a minimum of 1000ha is protected in reserve.

Monitoring Management Effectiveness:

- Any detections of Spot-Tailed Quoll are submitted to the Department of Primary Industries and Environment for inclusion in the Victorian Biodiversity Atlas dataset.

HCV Element	*High Conservation Value*
1.2 Threatened Species	Smoky Mouse, *Pseudomys fumeus*
HCV Designation Context	
Listed Conservation Status:	ENDANGERED – EPBC (1998), LISTED – FFG (1988)
Stakeholder Importance:	LOW
Likelihood of Occurrence within FMU:	LIKELY
Protection Adequately Managed through Formal Reserve:	UNCERTAIN (ADDITIONAL MANAGEMENT REQUIRED)
Threat from VicForests Management Activities and Decisions:	HIGH POTENTIAL
Stakeholder Concern:	Little is known regarding the abundance and known range of the Smoky Mouse. Given it is listed as endangered within Victoria and is likely to occur in forest areas suitable for timber harvesting, more sure should done to understand this species.
VicForests Response:	VicForests has designated this species as HCV and is committed to undertaking additional pre-harvest surveys for this species within the VicForests FMU.

Description:

Forest areas associated with verified detections of Smoky Mouse.

Management Objectives:

- Undertake monitoring within forest areas most likely to contain Smoky Mouse to improve the understanding of it's habitat range and abundance within Victoria;
- Protect verified detections of Smoky Mouse.

Threats to High Conservation Value:

Natural Processes:

- Wildfire remains the most significant threat to the habitat of Smokey Mouse.

Human-Based Activities:

- Removal of suitable habitat through Timber Harvesting

Management Strategies:

- Undertake pre-harvest surveys for Smoky mouse
- Implement collaborative research initiatives
- Identify up to 20ha of appropriate forest areas associated with verified detection record to be protected as Smoky mouse habitat reserve.

Monitoring Management Effectiveness:

- Monthly Coupe Monitoring Audits are to be conducted in accordance with the *VicForests Instruction – Coupe Monitoring Records.*

HCV Element	*High Conservation Value*
3.1 Rainforest Ecosystems	Rainforest
HCV Designation Context	
Listed Conservation Status:	ENDANGERED – FFG (1988)
Stakeholder Importance:	VERY HIGH
Likelihood of Occurrence within FMU:	KNOWN – VERY LIKELY
Protection Adequately Managed through Formal Reserve:	YES
Threat from VicForests Management Activities and Decisions:	VERY HIGH POTENTIAL
Stakeholder Concern:	National and State level significant stands of this EVC are protected across the state within the formal reserve system. Whilst it generally occurs within riparian zones, all other stands of rainforest are considered locally significant and requires appropriate identification and prescriptive management within VicForests FMU. Incorrect assessment and management in accordance with VicForests Operating procedures may pose risk of severe or irreversible damage to locally significant stands of Rainforest.
VicForests Response:	Regular training and assessment of field staff in the accurate identification of rainforest communities has become standard procedure to ensure all rainforest areas are identified and protected prior to harvest.

Description:

Forest areas assessed in the field to contain patches of threatened Ecological Vegetation Class (EVC) 31 – Cool Temperate Rainforest, EVC 32 and 33 – Warm Temperate Rainforest, and EVC 34 – Dry Rainforest.

Forest Areas will be assed to contain these threatened EVC types in accordance with the *VicForests Guideline – Rainforest.*

Management Objectives:

- Identify, retain and protect stands of rainforest from harvesting and improve understanding and alignment of Rainforest definition and management with key stakeholders.

Threats to High Conservation Value:

Natural Processes:

- Damage or removal of Rainforest resulting from High frequency fire resulting in disruption of life cycle processes in plants and animals and loss of vegetation structure and composition.

Human-Based Activities:

- Human activity which results in artificially elevated or epidemic levels of Myrtle Wilt within Nothofagus-dominated Cool Temperate Rainforest.

- Incorrect application of required procedures for the identification and management of Rainforest leading to damage or removal by mechanical disturbance, escaped regeneration burn, exposure or increased susceptibility to the elements or disease.
- Introduction of other pests, weeds or diseases

Management Strategies:

- Create a robust field guide aimed at assisting field-based planning and operational staff consistently identifying rainforest in the field
- Conduct regular training and competency of staff to ensure understanding of correct procedures for identifying and management rainforest.
- Engage with DEPI Regional Services regarding appropriate identification and management of pest and diseases
- Undertake planning and operations in accordance with the Code of Practice for Timber Production and the VicForests Operating Procedures – Regulatory Handbook (apply appropriate buffers to rainforest patches).
- Construct adequate control lines between areas containing Rainforest and the harvested are requiring a regeneration burn.
- Use precautionary approach to management when not clearly identifiable.
- Introduce dedicated roles to planning and managing biodiversity in each Region

Monitoring Management Effectiveness:

- Undertake Pre-harvest field assessments that identify and record presence and distribution of pests, weeds or diseases;
- Conduct Monthly Coupe Monitoring Records during operations that measure compliance against the SFMS checklist.
- Conduct post-harvest surveys to identify any non-compliances or breaches or procedures
- Conduct boundary surveys post-regeneration burn to assess damage of retained or protected areas containing HCV

HCV Element	*High Conservation Value*
3.2 Old Growth Ecosystems	Old Growth
HCV Designation Context	
Stakeholder Concern:	The extent of Old Growth ecosystems in Victorian native forests has been gradually declining mainly due to impacts of large-scale wildfires. Many of the threatened fauna are dependent on old growth structures for their habitat and continued existence. More needs to be done to ensure that existing Old Growth ecosystem extents are identified and protected.
VicForests Response:	We have developed a draft definitions aimed at objectively identifying Old Growth forests on the basis of FSC's distinction of two types of Old Growth forest. We are seeking stakeholder feedback on these proposed definitions and assessment process.

Background

VicForests recognises some values are found in Old Growth forests that are absent or more restricted than in Regrowth and Mature forests. VicForests also recognises that there is societal concern for "Old Growth" forest.

VicForests is supportive of Regional Forest Agreements where a minimum of 60% of Old Growth forest are protected in the permanent reserve system. In addition to the Old Growth in RFA reserves in 2008 there were further large areas of largely contiguous Old Growth forest blocks added to the reserve system in East Gippsland and the best areas with older age classes added to the Special Protection Zones in the Central Highlands. This effectively means that most of the Old Growth and older age classes are already in the permanent reserve system.

Having the most important contiguous areas of Old Growth in the permanent reserve system is appropriate given their important contribution to biodiversity and ecosystem values.

In addition to the large contiguous areas of Old Growth in the reserve system there are other smaller areas of mapped 'modelled' Old Growth forest within State forest where the current practice is to apply a precautionary approach to protection of these areas where targeted pre-harvest fauna surveys result in the detection of significant threatened fauna. While this approach addresses mapped Old Growth in potential harvesting areas, there are cases where the Old Growth values are not found on the ground. If Old Growth is not identified then additional assessment may not be warranted or if genuine Old Growth is located on the ground but not mapped then the converse may apply.

VicForests is proposing a new approach that does not intend to protect every old tree rather that the best areas of actual Old Growth forests are protected and that a precautionary approach is applied to forest stands that considers future recruitment of older trees across the landscape.

Proposed Definitions of Old Growth Forests for Field Assessment:

Old-Growth Forest – Type 1: forest stands that are ecologically mature and contain at least 10% of the total 'Basal Area' within the oldest growth stages, usually as senescing trees, and no more than 10% of the Basal Area is within the regrowth stage, indicating this forest has been subject to negligible unnatural disturbance.

Old-Growth Forest – Type 2 (Disturbed Old Forest): forest stands that are ecologically mature and contain at least 10% of the total 'Basal Area' within the oldest growth stages, usually as senescing trees, however may contain up to 10-30% of the Basal Area as Regrowth growth phases, indicating a history of unnatural disturbance from logging or clearing.

Preliminary HCV Assessment and management:

VicForests considers the Department of Environment and Primary Industries 'Modelled Old-Growth' spatial dataset (called MOG200) as the current, best available indicator of likely presence of either 'Old Growth Forests (Type 1) or Disturbed Old Forest (Type 2).

VicForests is currently seeking input on management strategies for old growth forests that occurs in areas of East Gippsland, Tambo and potentially North East Forests Management Areas.

We will formulate management strategies following the close of the current FSC consultation process.

Please refer to our Interactive Mapping located on our website to view these potential Old Growth forest areas.

HCV Element	*High Conservation Value*
4.1 Water Catchments	Yarra Tributaries
HCV Designation Context	
Listed Conservation Status:	N/A
Stakeholder Importance:	HIGH
Likelihood of Occurrence within FMU:	KNOWN
Protection Adequately Managed through Formal Reserve:	UNCERTAIN (ADDITIONAL MANAGEMENT REQUIRED)
Threat from VicForests Management Activities and Decisions:	HIGH POTENTIAL
Stakeholder Concern:	Prescriptive management required to manage potential impacts to water quality and water yield from these designated catchment areas. There is a high level of stakeholder interest surrounding water quality and yields affected by Timber Harvesting from Melbourne Water Supply Catchment Areas.

Description:
Four Melbourne Water-managed Yarra Tributary Catchment areas (Cement Creek, Starvation Creek, Armstrong Creek and McMahons Creek) are situated within the VicForests FMU and are available for timber harvesting under special management conditions.

The available forest area within these Water Supply Catchments has been classified as 'Special Management Area' within VicForests Special Management Area Layer with a maximum of 30% of the catchment area to be harvested within any 10 year period and harvesting can only occur in one of the four catchments in any one year.

Management Objectives:

- Manage harvesting rate limits and timing of activities to ensure water quality and water yields are maintained within acceptable standards, whilst maintaining timber production.

Threats to High Conservation Value:

Natural Processes:

- Major wildfires are the biggest risk to reduced water quality and reduced water yields. Forestry activity ensures there is adequate road networks and machinery available to fight wildfires when they occur.

Human-Based Activities:

- Melbourne Water also pays particular attention to roads in the catchments to ensure appropriate drainage is constructed and maintained to minimise erosion and sediment flowing into the water.
- Harvesting on slopes outside prescriptions
- Annual harvesting area (harvesting intensity and extent) exceeds recommended limits
- Water and silt-runoff from harvesting operations decreasing water quality.

Management Strategies:

- Harvest Timing only to occur outside seasonal closure dates

- Harvest limits monitored annually to ensure they don't exceed prescriptive limits
- Thinning operations where possible to increase water yields
- Increase buffer widths on permanent streams

Monitoring Management Effectiveness:

- SFMS Internal Audits
- DEPI Forest Audit program
- Engagement with Melbourne Water
- Quarterly Monitoring and Reporting of harvested Areas
- Annual Reporting of Harvest Areas
- Monthly Coupe Monitoring Records
- Annual Sustainability Report

HCV Element	*High Conservation Value*
4.1 Water Catchment	Thomson, Tarago and Bunyip Catchments
HCV Context	
Listed Conservation Status:	N/A
Stakeholder Importance:	HIGH
Likelihood of Occurrence within FMU:	KNOWN
Protection Adequately Managed through Formal Reserve:	UNCERTAIN (ADDITIONAL MANAGEMENT REQUIRED)
Threat from VicForests Management Activities and Decisions:	HIGH POTENTIAL
Stakeholder concern:	Prescriptive management required to manage potential impacts to water quality and water yield from these designated catchment areas. There is a high level of stakeholder interest surrounding water quality and yields affected by Timber Harvesting from Melbourne Water Supply Catchment Areas.

Description:

The available forest area within these water supply catchments has been classified as 'Special Management Area' within the VicForests Special Management Area Layer, whereby a maximum of 150ha of Ash Forest and .

Management Objectives:

- Manage harvesting rate limits and timing of activities to ensure water quality and water yields are maintained within acceptable standards, whilst maintaining timber production.

Threats to High Conservation Value:

Natural Processes:

- Major wildfires are the biggest risk to reduced water quality and reduced water yields. Forestry activity ensures there is adequate road networks and machinery available to fight wildfires when they occur.

Human-Based Activities:

- Melbourne Water also pays particular attention to roads in the catchments to ensure appropriate drainage is constructed and maintained to minimise erosion and sediment flowing into the water.
- Harvesting on slopes outside prescriptions
- Annual harvesting area (harvesting intensity and extent) exceeds recommended limits
- Water and silt-runoff from harvesting operations decreasing water quality.

Management Strategies:

- Harvest Timing only to occur outside seasonal closure dates
- Harvest limits monitored annually to ensure they don't exceed prescriptive limits
- Thinning operations where possible to increase water yields
- Increase buffer widths on permanent streams

Monitoring Management Effectiveness:

- SFMS Internal Audits
- DEPI Forest Audit program
- Engagement with Melbourne Water
- Quarterly Monitoring and Reporting of harvested Areas
- Annual Reporting of Harvest Areas
- Monthly Coupe Monitoring Records

HCV Element	*High Conservation Value*
4.1 Water Catchment	Learmonth Creek
HCV Context	
Conservation Status:	N/A
Stakeholder Importance:	HIGH
Likelihood of Occurrence within FMU:	KNOWN
Protection Adequately Managed through Formal Reserve:	UNCERTAIN (ADDITIONAL MANAGEMENT REQUIRED)
Threat from VicForests Management Activities and Decisions:	HIGH POTENTIAL
Stakeholder Concern:	There is a high level of stakeholder interest surrounding water quality and yields affected by Timber Harvesting from this catchment area that supplies water to Powelltown residents.
VicForests Response:	VicForests has implemented harvesting restrictions within this catchment area.

Description:

Learmonth Creek Catchment covers an area of approximately 600 ha. VicForests has classified this area as a 'Special Management Area' whereby a maximum of 7 ha of Ash Forest and 3ha of Mixed Species Forest can be harvested per year and permanent streams require 40m buffers. Learmonth Creek Catchment is Powelltown Township's main water supply.

Management Objectives:

- Manage harvesting rate limits and timing of activities to ensure water quality and water yields are maintained within acceptable standards, whilst maintaining timber production.

Threats to High Conservation Value:

Natural Processes:

- Major wildfires are the biggest risk to reduced water quality and reduced water yields. Forestry activity ensures there is adequate road networks and machinery available to fight wildfires when they occur.

Human-Based Activities:

- Harvesting on slopes outside prescriptions causing increased potential for erosion and silt run-off into streams and waterways
- Annual harvesting area (harvesting intensity and extent) exceeds recommended limits
- Water and silt-runoff from harvesting operations decreasing water quality.

Management Strategies:

- Harvest Timing only to occur outside seasonal closure dates
- Introduce Harvest limits based on local agreement and monitor annually to ensure harvesting does not exceed limit.
- Utilise thinning operations where possible to increase water yields
- Increase buffer widths on permanent streams

Monitoring Management Effectiveness:

- SFMS Internal Audits
- DEPI Forest Audit program
- Engagement with local Powelltown Residents
- Quarterly Monitoring and Reporting of harvested Areas
- Annual Reporting of Harvest Areas
- Monthly Coupe Monitoring Records

HCV Element	*High Conservation Value*
6.1 Culturally Significant Sites	Cultural Heritage
HCV Context	
Listed Conservation Status:	N/A
Stakeholder Importance:	HIGH
Likelihood of Occurrence within FMU:	KNOWN
Protection Adequately Managed through Formal Reserve:	UNCERTAIN (ADDITIONAL MANAGEMENT REQUIRED)
Threat from VicForests Management Activities and Decisions:	HIGH POTENTIAL
Stakeholder concern:	There is not a clearly defined process for identification and management of potential cultural heritage sites. All cultural heritage sites are protected under the Aboriginal Heritage Act, thus should be considered 'Significant' and warrant HCV status.
VicForests Response:	VicForests acknowledges that all sites registered under the Aboriginal heritage Act must be protected by law. VicForests intends to manage the areas of cultural sensitivity as HCV forest and continue to engage with Aboriginal Affairs Victoria and Registered Aboriginal Parties to further develop our procedures for identification and protection of known and unknown sites within the areas of forest managed by VicForests

Description:

To be described through consultation process

Management Objectives:

To be described through consultation process

Threats to High Conservation Value:

To be described through consultation process

Management Strategies:

To be described through consultation process

Monitoring Management Effectiveness:

To be described through consultation process

Appendix 3 – DEPI Flora and Fauna Guarantee Act 1988 Threatened List June 2013

Conservation Status in Australia (EPBC Act)

The 'EPBC' column outlines the national conservation status of the taxon and taxa under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). In some instances the scientific and/or the common names of animals may have changed since the taxon was first listed under the EPBC Act. In such instances the EPBC Act status has been applied to the circumscription intended at the time of listing under the Act. This information is accurate at January 2013. For further information regarding the EPBC Act and, in particular, for the most up-to-date listings under the Act, refer to the following web site: www.environment.gov.au/epbc/

The EPBC Act categories are as follows:

Extinct (EX)
A taxon is extinct when there is no reasonable doubt that the last individual of the taxon has died.

Critically Endangered (CR)
A taxon is critically endangered when it is facing an extremely high risk of extinction in the wild in the immediate future.

Endangered (EN)
A taxon is endangered when it is not critically endangered but is facing a very high risk of extinction in the wild in the near future.

Vulnerable (VU)
A taxon is vulnerable when it is not critically endangered or endangered but is facing a high risk of extinction in the wild in the medium-term future.

Conservation Dependent (CD)
A taxon is conservation dependent when it is the focus of a specific conservation program, the cessation of which would result in the taxon becoming vulnerable, endangered or critically endangered within a period of five years.

Fauna Conservation Status in Victoria (Advisory List)

Extinct (EX)
A taxon is Extinct when there is no reasonable doubt that the last individual has died. A taxon is presumed extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual) and throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

Regionally Extinct (RX)
As for Extinct but within a defined region (in this case the state of Victoria) that does not encompass the entire geographic range of the taxon. A taxon is presumed Regionally Extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout the region have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

Extinct in the Wild (EW)
A taxon is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalized population (or populations) well outside the past range. A taxon is presumed Extinct in the Wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual),

throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

Critically Endangered (CR)
A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered (IUCN Standards and Petitions Subcommittee 2010), and it is therefore considered to be facing an extremely high risk of extinction in the wild.

Endangered (EN)
A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered (IUCN Standards and Petitions Subcommittee 2010), and it is therefore considered to be facing a very high risk of extinction in the wild.

Vulnerable (VU)
A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable (IUCN Standards and Petitions Subcommittee 2010), and it is therefore considered to be facing a high risk of extinction in the wild.

Flora Conservation Status in Victoria (Advisory List)

(x) Presumed Extinct in Victoria: not recorded from Victoria during the past 50 years despite field searches specifically for the plant, or, alternatively, intensive field searches (since 1950) at all previously known sites have failed to record the plant.

(e) Endangered in Victoria: at risk of disappearing from the wild state if present land use and other causal factors continue to operate.

(v) Vulnerable in Victoria: not presently endangered but likely to become so soon due to continued depletion; occurring mainly on sites likely to experience changes in land-use which would threaten the survival of the plant in the wild; or, taxa whose total population is so small that the likelihood of recovery from disturbance, including localised natural events such as drought, fire or landslip, is doubtful.

(r) Rare in Victoria: rare but not considered otherwise threatened - there are relatively few known populations or the taxon is restricted to a relatively small area.

(k) Poorly Known in Victoria: poorly known and suspected, but not definitely known, to belong to one of the above categories (x, e, v or r) within Victoria. At present, accurate distribution information is inadequate.

Mammals

Common Name	Scientific Name	EPBC Status	FFG Status	DEPI Advisory Status
Blue Whale	*Balaenoptera musculus*	EN	L	CE
Bridled Nailtail Wallaby	*Onychogalea fraenata*	EN	L	RE
Brush-tailed Bettong (eastern subspecies)	*Bettongia penicillata penicillata*	EX	L	EX
Brush-tailed Phascogale	*Phascogale tapoatafa tapoatafa*		L	VU
Brush-tailed Rock Wallaby	*Petrogale penicillata*	VU	L	CE
Dingo	*Canis lupus dingo*		L	DD
Eastern Barred Bandicoot (mainland form)	*Perameles gunnii*	EN	L	EW
Eastern Bent-wing Bat	*Miniopterus schreibersii oceanensis*		L	VU
Eastern Hare Wallaby	*Lagorchestes leporides*	EX	L	EX
Eastern Horseshoe Bat	*Rhinolophus megaphyllus megaphyllus*		L	VU
Eastern Quoll	*Dasyurus viverrinus*		L	RE
Eastern Wallaroo	*Macropus robustus robustus*		L	EN

Gile's Planigale	*Planigale gilesi*		L	NT
Grey-headed Flying-fox	*Pteropus poliocephalus*	VU	L	VU
Heath Mouse	*Pseudomys shortridgei*	VU	L	NT
Humpback Whale	*Megaptera novaeangliae*	VU	L	VU
Leadbeater's Possum	*Gymnobelideus leadbeateri*	EN	L	EN
Lesser Stick-nest Rat	*Leporillus apicalis*	EX	L	EX
Long-eared Mouse	*Pseudomys auritus*		L	EX
Long-footed Potoroo	*Potorous longipes*	EN	L	VU
Long-nosed Potoroo	*Potorous tridactylus tridactylus*	VU	L	NT
Mountain Pygmy Possum	*Burramys parvus*	EN	L	CE
New Holland Mouse	*Pseudomys novaehollandiae*		L	VU
Pig-footed Bandicoot	*Chaeropus ecaudatus*	EX	L	EX
Red-tailed Phascogale	*Phascogale calura*	EN	L	RE
Rufous Bettong	*Aepyprymnus rufescens*		L	RE
Rufous-bellied Pademelon	*Thylogale billardierii*		L	RE
short-nosed bandicoot (inland form)	*Isoodon sp. (c.f. auratus)*		L	EX
Smoky Mouse	*Pseudomys fumeus*	EN	L	EN
South-eastern Long-eared Bat	*Nyctophilus corbeni*	VU	L	EN
Southern Bent-wing Bat	*Miniopterus schreibersii bassanii*	CR	L	CE
Southern Bettong (mainland subspecies)	*Bettongia gaimardi gaimardi*	EX	L	EX
Southern Brown Bandicoot	*Isoodon obesulus obesulus*	EN	L	NT
Southern Right Whale	*Eubalaena australis*	EN	L	CE
Spot-tailed Quoll	*Dasyurus maculatus maculatus*	EN	L	EN
Squirrel Glider	*Petaurus norfolcensis*		L	EN
Swamp Antechinus	*Antechinus minimus maritimus*		L	NT
Western Barred Bandicoot (eastern subspecies)	*Perameles bougainville fasciata*	EX	L	EX
White-footed Dunnart	*Sminthopsis leucopus*		L	NT
White-footed Rabbit Rat	*Conilurus albipes*	EX	L	EX
Yellow-bellied Sheathtail Bat	*Saccolaimus flaviventris*		L	DD

Birds

Common Name	Scientific Name	EPBC Status	FFG Status	DEPI Advisory Status
Australasian Bittern	*Botaurus poiciloptilus*	EN	L	EN
Australian Bustard	*Ardeotis australis*		L	CE
Australian Little Bittern	*Ixobrychus dubius*		L	EN
Australian Painted Snipe	*Rostratula australis*	VU	L	CE
Baillon's Crake	*Porzana pusilla palustris*		L	VU
Barking Owl	*Ninox connivens connivens*		L	EN
Black Bittern	*Ixobrychus flavicollis australis*		L	VU
Black-eared Miner	*Manorina melanotis*	EN	L	CE
Blue-billed Duck	*Oxyura australis*		L	EN
Brolga	*Grus rubicunda*		L	VU
Bush Stone-curlew	*Burhinus grallarius*		L	EN
Caspian Tern	*Sterna caspia*		L	NT
Chestnut-rumped Heathwren	*Hylacola pyrrhopygia*		L	VU
Crested Bellbird	*Oreoica gutturalis gutturalis*		L	NT
Diamond Dove	*Geopelia cuneata*		L	NT
Diamond Firetail	*Stagonopleura guttata*		L	NT
Eastern Bristlebird	*Dasyornis brachypterus brachypterus*	EN	L	EN
Eastern Great Egret	*Ardea modesta*		L	VU

Fairy Tern	*Sterna nereis nereis*	VU	L	EN
Freckled Duck	*Stictonetta naevosa*		L	EN
Glossy Black-Cockatoo	*Calyptorhynchus lathami lathami*		L	VU
Great Knot	*Calidris tenuirostris*		L	EN
Grey Falcon	*Falco hypoleucos*		L	EN
Grey Goshawk	*Accipiter novaehollandiae novaehollandiae*		L	VU
Grey-crowned Babbler	*Pomatostomus temporalis temporalis*		L	EN
Grey-headed Albatross	*Diomedea chrysostoma*	EN	L	VU
Grey-tailed Tattler	*Heteroscelus brevipes*		L	CE
Ground Cuckoo-shrike	*Coracina maxima*		L	VU
Ground Parrot	*Pezoporus wallicus wallicus*		L	EN
Gull-billed Tern	*Sterna nilotica macrotarsa*		L	EN
Helmeted Honeyeater	*Lichenostomus melanops cassidix*	EN	L	CE
Hooded Plover	*Thinornis rubricollis rubricollis*		L	VU
Hooded Robin	*Melanodryas cucullata cucullata*		L	NT
Intermediate Egret	*Ardea intermedia*		L	EN
King Quail	*Coturnix chinensis victoriae*		L	EN
Lewin's Rail	*Rallus pectoralis pectoralis*		L	VU
Little Egret	*Egretta garzetta nigripes*		L	EN
Little Tern	*Sterna albifrons sinensis*		L	VU
Magpie Goose	*Anseranas semipalmata*		L	NT
Major Mitchell's Cockatoo	*Cacatua leadbeateri leadbeateri*		L	VU
Mallee Emu-wren	*Stipiturus mallee*	VU	L	EN
Malleefowl	*Leipoa ocellata*	VU	L	EN
Masked Owl	*Tyto novaehollandiae novaehollandiae*		L	EN
Northern Giant-Petrel	*Macronectes halli*	VU	L	NT
Orange-bellied Parrot	*Neophema chrysogaster*	CR	L	CE
Painted Honeyeater	*Grantiella picta*		L	VU
Plains-wanderer	*Pedionomus torquatus*	VU	L	CE
Powerful Owl	*Ninox strenua*		L	VU
Red-chested Button-quail	*Turnix pyrrhothorax*		L	VU
Red-lored Whistler	*Pachycephala rufogularis*	VU	L	EN
Red-tailed Black-Cockatoo	*Calyptorhynchus banksii graptogyne*	EN	L	EN
Redthroat	*Pyrrholaemus brunneus*		L	EN
Regent Honeyeater	*Anthochaera phrygia*	EN	L	CE
Regent Parrot	*Polytelis anthopeplus monarchoides*	VU	L	VU
Royal Albatross	*Diomedea epomophora*	VU	L	VU
Rufous Bristlebird (Coorong subspecies)	*Dasyornis broadbenti broadbenti*		L	NT
Rufous Bristlebird (Otways subspecies)	*Dasyornis broadbenti caryochrous*		L	NT
Scarlet-chested Parrot	*Neophema splendida*		L	VU
Shy Albatross	*Diomedea cauta*	VU	L	VU
Slender-billed Thornbill	*Acanthiza iredalei hedleyi*		L	NT
Sooty Owl	*Tyto tenebricosa tenebricosa*		L	VU
Southern Giant-Petrel	*Macronectes giganteus*	EN	L	VU
Speckled Warbler	*Chthonicola sagittata*		L	VU
Spotted Bowerbird	*Chlamydera maculata*		L	CE
Square-tailed Kite	*Lophoictinia isura*		L	VU
Superb Parrot	*Polytelis swainsonii*	VU	L	EN
Swift Parrot	*Lathamus discolor*	EN	L	EN
Terek Sandpiper	*Xenus cinereus*		L	EN
Turquoise Parrot	*Neophema pulchella*		L	NT
Wandering Albatross	*Diomedea exulans*	VU	L	EN
Western Whipbird	*Psophodes nigrogularis leucogaster*	VU	L	CE

White-bellied Sea-Eagle	*Haliaeetus leucogaster*		L	VU
White-browed Treecreeper	*Climacteris affinis*		L	VU
Yellow-nosed Albatross	*Diomedea chlororhynchus*	VU	L	VU

Reptiles

Common Name	Scientific Name	EPBC Status	FFG Status	DEPI Advisory Status
Alpine Bog Skink	*Pseudemoia cryodroma*		L	EN
Alpine She-oak Skink	*Cyclodomorphus praealtus*	EN	L	CE
Alpine Water Skink	*Eulamprus kosciuskoi*		L	CE
Bandy Bandy	*Vermicella annulata*		L	VU
Bardick	*Echiopsis curta*		L	VU
Beaked Gecko	*Rhynchoedura ornata*		L	CE
Broad-shelled Turtle	*Chelodina expansa*		L	EN
Carpet Python	*Morelia spilota metcalfei*		L	EN
Common Death Adder	*Acanthophis antar*cticus		L	DD
Corangamite Water Skink	*Eulamprus tympanum marnieae*	EN	L	CE
Diamond Python	*Morelia spilota spilota*		L	EN
Dwarf Burrowing Skink	*Lerista timida*		L	EN
Eastern She-oak Skink	*Cyclodomorphus michaeli*		L	NT
Grassland Earless Dragon	*Tympanocryptis pinguicolla*	EN	L	CE
Guthega Skink	*Liopholis guthega*	EN	L	CE
Heath Skink	*Liopholis multiscutata*		L	CE
Hooded Scaly-foot	*Pygopus schraderi*		L	CE
Leathery Turtle	*Dermochelys coriacea*	VU	L	CE
Lined Earless Dragon	*Tympanocryptis lineata*		L	CE
Mallee Worm-lizard	*Aprasia aurita*		L	VU
Millewa Skink	*Hemiergis millewae*		L	CE
Pink-tailed Worm-lizard	*Aprasia parapulchella*	VU	L	EN
Port Lincoln Snake	*Parasuta spectabilis*		L	VU
Red-naped Snake	*Furina diadema*		L	VU
Rosenberg's Goanna	*Varanus rosenbergi*		L	EN
Samphire Skink	*Morethia adelaidensis*		L	EN
Striped Legless Lizard	*Delma impar*	VU	L	EN
Striped Worm-lizard	*Aprasia striolata*		L	NT
Swamp Skink	*Lissolepis coventryi*		L	VU

Amphibians

Common Name	Scientific Name	EPBC Status	FFG Status	DEPI Advisory Status
Alpine Tree Frog	*Litoria verreauxii alpina*	VU	L	CE
Baw Baw Frog	*Philoria frosti*	EN	L	CE
Booroolong Tree Frog	*Litoria booroolongensis*	EN	L	CE
Brown Toadlet	*Pseudophryne bibronii*		L	EN
Giant Bullfrog	*Limnodynastes interioris*		L	CE
Giant Burrowing Frog	*Heleioporus australi*acus	VU	L	CE
Growling Grass Frog	*Litoria raniformis*	VU	L	EN
Large Brown Tree Frog	*Litoria littlejohni*	VU	L	EN
Rugose Toadlet	*Uperoleia rugosa*		L	EN

Southern Barred Frog	*Mixophyes balbus*	VU	L	CE
Spotted Tree Frog	*Litoria spenceri*	EN	L	CE

Fish

Common Name	Scientific Name	EPBC Status	FFG Status	DEPI Advisory Status
Agassiz's Chanda Perch	*Ambassis agassizii*		L	RE
Australian Grayling	*Prototroctes mara*ena	VU	L	VU
Australian Mudfish	*Neochanna cleaveri*		L	CE
Australian Whitebait	*Lovettia sealii*		L	CE
Barred Galaxias	*Galaxias fuscus*	EN	L	CE
Cox's Gudgeon	*Gobiomorphus coxii*		L	EN
Dwarf Galaxias	*Galaxiella pusilla*	VU	L	EN
Empire Gudgeon	*Hypseleotris compressa*		L	VU
Freshwater Catfish	*Tandanus tand*anus		L	EN
Freshwater Herring	*Potamalosa richmondia*		L	RE
Great White Shark	*Carcharodon carcharias*	VU	L	VU
Grey Nurse Shark	*Carcharias taurus*	CR	L	DD
Macquarie Perch	*Macquaria australasica*	EN	L	EN
Murray Cod	*Maccullochella peelii*	VU	L	VU
Murray Hardyhead	*Craterocephalus fluviatilis*	EN	L	CE
Murray-Darling Rainbowfish	*Melanotaenia fluviatilis*		L	VU
Pale Mangrove Goby	*Mugiligobius platynotus*		L	VU
Silver Perch	*Bidyanus bidyanus*		L	VU
Southern Purple-spotted	*Gudgeon Mogurnda adspersa*		L	RE
Trout Cod	*Maccullochella macquariensis*	EN	L	CE
Variegated Pygmy Perch	*Nannoperca variegata*	VU	L	VU
Yarra Pygmy Perch	*Nannoperca obscura*	VU	L	VU

Vascular Plants

Common Name	*Scientific Name*	EPBC Status	FFG Status	Victorian Status
Adamson's Blown-grass	*Lachnagrostis adamsonii*	EN	L	v
Allied Bent-grass	*Deyeuxia affinis*		L	e
Anglesea Grevillea	*Grevillea infecunda*	VU	L	v
Angular Saltbush	*Atriplex angulata*		L	e
Aniseed Boronia	*Boronia galbraithiae*	VU	L	v
Annual Buttons	*Leptorhynchos orientalis*		L	e
Annual Flat-sedge	*Cyperus nervulosus*		L	e
Austral Moonwort	*Botrychium australe*		L	v
Austral Toad-flax	*Thesium australe*	VU	L	v
Australian Anchor Plant	*Discaria pubescens*		L	r
Bald-tip Beard-orchid	*Calochilus richiae*	EN	L	e
Bare-tip Wasp-orchid	*Chiloglottis seminuda*		L	k
Basalt Peppercress	*Lepidium hyssopifolium*	EN	L	e
Basalt Rustyhood	*Pterostylis basaltica*	EN	L	e
Basalt Sun-orchid	*Thelymitra gregaria*		L	e
Bead Glasswort	*Halosarcia flabelliformis*	VU	L	e
Bellarine Yellow-gum	*Eucalyptus leucoxylon subsp. bellarinensis*		L	e

Ben Major Grevillea	*Grevillea floripendula*	VU	L	v
Bendigo Spider-orchid	*Caladenia sp. aff. fragrantissima*		L	e
Bent Pomaderris	*Pomaderris sericea*	VU	L	v
Betka Bottlebrush	*Callistemon kenmorrisonii*	VU	L	v
Bignonia Emu-bush	*Eremophila bignoniiflora*		L	v
Billabong Daisy	*Brachyscome aff. gracilis (Kings Billabong)*		L	v
Binung	*Christella dentata*		L	e
Black Gum	*Eucalyptus aggregata*		L	e
Blunt Club-sedge	*Schoenoplectus dissachanthus*		L	e
Bog Willow-herb	*Epilobium brunnescens subsp. beaugleholei*	VU	L	e
Bonnet Orchid	*Cryptostylis erecta*		L	e
Bow-lip Spider-orchid	*Caladenia toxochila*		L	v
Brilliant Sun-orchid	*Thelymitra mackibbinii*	VU	L	e
Brittle Greenhood	*Pterostylis truncata*		L	e
Buff Hazelwood	*Symplocos thwaitesii*		L	e
Buffalo Leek-orchid	*Prasophyllum suttonii s.s.*		L	x
Buffalo Sallow-wattle	*Acacia phlebophylla*		L	r
Button Wrinklewort	*Rutidosis leptorhynchoides*	EN	L	e
Buxton Gum	*Eucalyptus crenulata*	EN	L	e
Candy Spider-orchid	*Caladenia versicolor*	VU	L	e
Carpet Willow-herb	*Epilobium willisii*		L	x
Charming Spider-orchid	*Caladenia amoena*	EN	L	e
Clover Glycine	*Glycine latrobeana*	VU	L	v
Coast Dandelion	*Taraxacum cygnorum*	VU	L	e
Coast Myall	*Acacia binervia*		L	e
Coastal Leek-orchid	*Prasophyllum litorale*		L	v
Colourful Spider-orchid	*Caladenia sp. aff. colorata (Lower Glenelg River)*	EN	L	e
Concave Pomaderris	*Pomaderris subplicata*	VU	L	v
Cotoneaster Pomaderris	*Pomaderris cotoneaster*	EN	L	e
Crimson Spider-orchid	*Caladenia concolor*	VU	L	e
Curly Flat-sedge	*Cyperus rigidellus*		L	e
Curly Sedge	*Carex tasmanica*	VU	L	v
Cushion Rush	*Juncus antarcticus*		L	v
Dainty Phebalium	*Phebalium festivum*		L	v
Deane's Wattle	*Acacia deanei subsp. deanei*		L	e
Desert Greenhood	*Pterostylis xerophila*	VU	L	e
Desert Spurge	*Euphorbia tannensis subsp. eremophila*		L	e
Dookie Daisy	*Brachyscome gracilis*		L	v
Downy Star-Bush	*Asterolasia phebalioides*	VU	L	v
Downy Swainson-pea	*Swainsona swainsonioides*		L	e
Dwarf Brunoniella	*Brunoniella pumilio*		L	e
Dwarf Darling-pea	*Swainsona luteola*		L	e
Dwarf Kerrawang	*Rulingia prostrata*	EN	L	e
Dwarf Lantern-flower	*Abutilon fraseri subsp. diplotrichum*		L	e
Dwarf Lantern-flower	*Abutilon fraseri subsp. fraseri*		L	e
Dwarf Sedge	*Carex paupera*	VU	L	v
Dwarf Spider-orchid	*Caladenia pumila*	EX	L	x
Dwarf Swainson-pea	*Swainsona phacoides*		L	e
Dwarf Yellow-heads	*Trichanthodium baracchianum*	VU	L	v
Eastern Spider-orchid	*Caladenia fragrantissima subsp. orientalis*	EN	L	e
Elegant Spider-orchid	*Caladenia formosa*	VU	L	v
Enigmatic Greenhood	*Pterostylis X aenigma*	EN	L	e
Erect Peppercress	*Lepidium pseudopapillosum*	VU	L	e

Euroa Guinea-flower	*Hibbertia humifusa subsp. erigens*	VU	L	v
Fairy Bluebell	*Wahlenbergia densifolia*		L	v
Fairy Lanterns	*Thismia rodwayi*		L	v
Fat Spectacles	*Menkea crassa*		L	e
Fern-leaf Baeckea	*Babingtonia crenulata*	VU	L	v
Filmy Maidenhair	*Adiantum diaphanum*		L	e
Fitzgerald's Leek-orchid	*Prasophyllum sp. aff. fitzgeraldii A*		L	e
Flannel Weed	*Abutilon oxycarpum var. subsagittatum*		L	e
Floodplain Rustyhood	*Pterostylis cheraphila*	VU	L	v
Fragrant Leek-orchid	*Prasophyllum suaveolens*	EN	L	e
Franklin Bitter-cress	*Cardamine franklinensis*		L	e
Frankston Spider-orchid	*Caladenia robinsonii*	EN	L	e
French Island Spider-orchid	*Caladenia insularis*	VU	L	v
Fringed Spider-orchid	*Caladenia thysanochila*	EN	L	x
Gaping Leek-orchid	*Prasophyllum correctum*	EN	L	e
Genoa River Correa	*Correa lawrenceana var. genoensis*	EN	L	e
Glistening Saltbush	*Atriplex billardierei*		L	x
Gorae Leek-orchid	*Prasophyllum diversiflorum*	EN	L	e
Grampians Bitter-pea	*Daviesia laevis*	VU	L	v
Grampians Duck-orchid	*Paracaleana sp. aff. nigrita (Horsham)*		L	e
Grampians Pincushion-lily	*Borya mirabilis*	EN	L	e
Granite Rustyhood	*Pterostylis sp. aff. boormanii (Beechworth)*		L	e
Grey Billy-buttons	*Craspedia canens*		L	e
Grey Scurf-pea	*Cullen discolor*		L	e
Gully Grevillea	*Grevillea barklyana*		L	v
Hairy Darling-pea	*Swainsona greyana*		L	e
Hairy-pod Wattle	*Acacia glandulicarpa*	VU	L	v
Helmet-orchid	*Corybas sp. aff. diemenicus (Coastal) Late*		L	e
Hoary Scurf-pea	*Cullen cinereum*		L	e
Hooded Mosquito-orchid	*Acianthus collinus*		L	v
Jericho Wire-grass	*Aristida jerichoensis var. subspinulifera*		L	e
Jumping-jack Wattle	*Acacia enterocarpa*	EN	L	e
Kamarooka Mallee	*Eucalyptus froggattii*		L	r
Kerrawang	*Rulingia dasyphylla*		L	v
Kilsyth South Spider-orchid	*Caladenia sp. aff. venusta (Kilsyth South)*		L	e
King Greenhood	*Pterostylis baptistii*		L	v
Kneed Swainson-pea	*Swainsona reticulata*		L	v
Large-fruit Fireweed	*Senecio macrocarpus*	VU	L	e
Leafless Tongue-orchid	*Cryptostylis hunteriana*	VU	L	e
Leafy Greenhood (coastal form)	*Pterostylis cucullata (coastal form)*	VU	L	e
Leafy Greenhood (montane form)	*Pterostylis cucullata (montane form)*	VU	L	r
Licola Dampiera	*Dampiera galbraithiana*		L	v
Lima Stringybark	*Eucalyptus alligatrix subsp. limaensis*	VU	L	e
Limestone Blue Wattle	*Acacia caerulescens*	VU	L	v
Limestone Sida	*Sida spodochroma*		L	v
Limestone Spider-orchid	*Caladenia calcicola*	VU	L	e
Little Desert Peppermint	*Eucalyptus molyneuxii*		L	e
Little Pink Spider-orchid	*Caladenia rosella*	EN	L	e
Long-tail Greenhood	*Pterostylis woollsii*		L	e
Low Hibiscus	*Hibiscus brachysiphonius*		L	e
Lowly Greenhood	*Pterostylis despectans*	EN	L	e
Magnificent Spider-orchid	*Caladenia magnifica*		L	x
Maidenhair Spleenwort	*Asplenium hookerianum*	VU	L	e

Maiden's Wattle	*Acacia maidenii*		L	e
Mallee Hemichroa	*Hemichroa diandra*		L	e
Mallow-leaf Lantern-flower	*Abutilon oxycarpum var. malvaefolium*		L	e
Marble Daisy-bush	*Olearia astroloba*	VU	L	v
Marbled Marshwort	*Nymphoides spinulosperma*		L	e
Maroon Leek-orchid	*Prasophyllum frenchii*	EN	L	e
Marsh Leek-orchid	*Prasophyllum niphopedium*		L	e
McIvor Spider-orchid	*Caladenia audasii*	EN	L	e
Mellblom's Spider-orchid	*Caladenia hastata*	EN	L	e
Merran's Sun-orchid	*Thelymitra X merraniae*		L	e
Metallic Sun-orchid	*Thelymitra epipactoides*	EN	L	e
Mignonette Leek-orchid	*Prasophyllum morganii*	VU	L	x
Mountain Cress	*Drabastrum alpestre*		L	v
Mountain Daisy	*Brachyscome sp. 3*		L	v
Mountain Geebung	*Persoonia asperula*		L	e
Mountain Swainson-pea	*Swainsona recta*	EN	L	e
Mt Pilot Spider-orchid	*Caladenia pilotensis*		L	e
Mueller Daisy	*Brachyscome muelleroides*	VU	L	e
Narrow Goodenia	*Goodenia macbarronii*	VU	L	v
Narrow-leaf Emu-bush	*Eremophila sturtii*		L	e
Native Quince	*Alectryon subcinereus*		L	e
Native Scurf-pea	*Cullen australasicum*		L	e
Needle Wattle	*Acacia havilandiorum*		L	x
Northern Sandalwood	*Santalum lanceolatum*		L	e
Orange-blossom Orchid	*Sarcochilus falcatus*		L	e
Painted Diuris	*Diuris tricolor*		L	e
Pale Golden Moths	*Diuris ochroma*	VU	L	e
Pale Myoporum	*Myoporum brevipes*		L	e
Pale Plover-daisy	*Leiocarpa leptolepis*		L	e
Phantom Wattle	*Acacia phasmoides*	VU	L	v
Plains Spurge	*Euphorbia planiticola*		L	e
Plump Swamp Wallaby-grass	*Amphibromus pithogastrus*		L	e
Pointed Saltbush	*Atriplex acutibractea subsp. acutibractea*		L	r
Pomonal Leek-orchid	*Prasophyllum subbisectum*	EN	L	e
Pop Saltbush	*Atriplex holocarpa*		L	v
Prickly Tree-fern	*Cyathea leichhardtiana*		L	v
Prostrate Cone-bush	*Isopogon prostratus*		L	e
Purple Blown-grass	*Lachnagrostis punicea subsp. filifolia*		L	r
Purple Diuris	*Diuris punctata var. punctata*		L	v
Purple Eyebright	*Euphrasia collina subsp. muelleri*	EN	L	e
Purple Swainson-pea	*Swainsona purpurea*		L	e
Purple Wire-grass	*Aristida personata*		L	e
Rare Bitter-bush	*Adriana quadripartita s.s. (glabrous form)*		L	e
Red Swainson-pea	*Swainsona plagiotropis*	VU	L	e
Red-cross Spider-orchid	*Caladenia cruciformis*		L	e
Ridged Water-milfoil	*Myriophyllum porcatum*	VU	L	v
Robust Greenhood	*Pterostylis valida*	EX	L	x
Robust Spider-orchid	*Caladenia valida*		L	e
Rock Orchid	*Thelychiton speciosus*		L	e
Rock Poa	*Poa saxicola*		L	v
Rough Eyebright	*Euphrasia scabra*		L	e
Rough-seed Wire-grass	*Aristida obscura*		L	e
Roundhead Bristle-sedge	*Chorizandra sphaerocephala*		L	v

Salt Copperburr	*Sclerolaena ventricosa*		L	e
Salt Paperbark	*Melaleuca halmaturorum subsp. halmaturorum*		L	v
Sandpaper Fig	*Ficus coronata*		L	v
Scented Bush-pea	*Pultenaea graveolens*		L	v
Scented Spider-orchid	*Caladenia fragrantissima subsp. fragrantissima*		L	e
Shelford Leek-orchid	*Prasophyllum fosteri*		L	e
Shining Anchor Plant	*Discaria nitida*		L	e
Shining Spyridium	*Spyridium nitidum*		L	e
Shining Westringia	*Westringia lucida*		L	v
Shiny Nematolepis	*Nematolepis wilsonii*	VU	L	v
Short Spider-orchid	*Caladenia brachyscapa*	EX	L	x
Short Water-starwort	*Callitriche brachycarpa*		L	v
Silky Glycine	*Glycine canescens*		L	e
Silky Snow-daisy	*Celmisia sericophylla*		L	v
Silky Swainson-pea	*Swainsona sericea*		L	v
Silver Saltbush	*Atriplex rhagodioides*		L	v
Slender Club-sedge	*Isolepis congrua*		L	v
Slender Darling-pea	*Swainsona murrayana*	VU	L	e
Slender Flat-sedge	*Cyperus gracilis*		L	e
Slender Lignum	*Muehlenbeckia gracillima*		L	e
Slender Mud-grass	*Pseudoraphis paradoxa*		L	e
Slender Myoporum	*Myoporum floribundum*		L	e
Slender Parrot-pea	*Almaleea capitata*		L	v
Slender Sunray	*Rhodanthe stricta*		L	e
Slender Swainson-pea	*Swainsona brachycarpa*		L	v
Slender Tree-fern	*Cyathea cunninghamii*		L	v
Slender Water-milfoil	*Myriophyllum gracile var. lineare*		L	e
Small Golden Moths	*Diuris sp. aff. chryseopsis (Basalt Plains)*	EN	L	v
Small Milkwort	*Comesperma polygaloides*		L	v
Small Quillwort	*Isoetes pusilla*		L	e
Small Scurf-pea	*Cullen parvum*	EN	L	e
Small-leaf Wax-flower	*Philotheca difformis subsp. difformis*		L	e
Smooth Darling-pea	*Swainsona galegifolia*		L	e
Snow Daphne	*Kelleria laxa*	VU	L	e
Snow Pratia	*Lobelia gelida*	VU	L	v
Snow-berry	*Gaultheria hispida*		L	e
Southern Pipewort	*Eriocaulon australasicum*	EN	L	e
Southern Shepherd's Purse	*Ballantinia antipoda*	EN	L	e
Spiked Pigweed	*Dysphania simulans*		L	e
Spiny Peppercress	*Lepidium aschersonii*	VU	L	e
Spiny Rice-flower	*Pimelea spinescens subsp. pubiflora*	EX	L	x
Spiny Rice-flower	*Pimelea spinescens subsp. spinescens*	CR	L	v
Spiral Sun-orchid	*Thelymitra matthewsii*	VU	L	v
Spreading Saltbush	*Atriplex limbata*		L	v
Spreading Scurf-pea	*Cullen patens*		L	e
Spreading Water-mat	*Lepilaena patentifolia*		L	v
Stiff Groundsel	*Senecio behrianus*	EN	L	e
Stiff Woodruff	*Asperula ambleia*		L	e
Stony Bush-pea	*Pultenaea lapidosa*		L	v
Striped Pink-fingers	*Caladenia carnea var. subulata*	EN	L	x
Striped Water-milfoil	*Myriophyllum striatum*		L	v
Sunshine Diuris	*Diuris fragrantissima*	EN	L	e
Swamp Diuris	*Diuris palustris*		L	v

Swamp Everlasting	*Xerochrysum palustre*	VU	L	v
Swamp Fern	*Thelypteris confluens*		L	e
Swamp Leek-orchid	*Prasophyllum sp. aff. pyriforme D*		L	e
Swamp Sheoak	*Casuarina obesa*		L	e
Tall Astelia	*Astelia australiana*	VU	L	v
Tasmanian Bladderwort	*Utricularia monanthos*		L	v
Tawny Spider-orchid	*Caladenia fulva*	EN	L	e
Thick Eyebright	*Euphrasia crassiuscula subsp. glandulifera*	VU	L	v
Tough Scurf-pea	*Cullen tenax*		L	e
Tuberous Bitter-cress	*Cardamine gunnii s.s.*		L	x
Turnip Copperburr	*Sclerolaena napiformis*	EN	L	e
Velvet Daisy-bush	*Olearia pannosa subsp. cardiophylla*		L	v
Venus-hair Fern	*Adiantum capillus-veneris*		L	e
Violet Swainson-pea	*Swainsona adenophylla*		L	e
Violet Town Spider-orchid	*Caladenia sp. aff. rosella (Violet Town)*		L	e
Warby Range Swamp-gum	*Eucalyptus cadens*	VU	L	v
Water-shield	*Brasenia schreberi*		L	v
Wedge Diuris	*Diuris dendrobioides*		L	e
Weeping Myall	*Acacia pendula*		L	e
Western Water-starwort	*Callitriche cyclocarpa*	VU	L	v
Whipstick Westringia	*Westringia crassifolia*	EN	L	e
White Star-bush	*Asterolasia asteriscophora subsp. albiflora*		L	e
Whorled Zieria	*Zieria aspalathoides subsp. aspalathoides*		L	v
Wilga	*Geijera parviflora*		L	e
Willow Needlewood	*Hakea macraeana*		L	e
Wimmera Spider-orchid	*Caladenia lowanensis*	EN	L	e
Winged Peppercress	*Lepidium monoplocoides*	EN	L	e
Winter Sun-orchid	*Thelymitra hiemalis*		L	e
Wire-head Sedge	*Carex cephalotes*		L	v
Woolly Ragwort	*Senecio garlandii*	VU	L	e
Woolly Scurf-pea	*Cullen pallidum*		L	e
Wrinkled Buttons	*Leiocarpa gatesii*	VU	L	v
Wrinkled Cassinia	*Cassinia rugata*	VU	L	v
Yarran Wattle	*Acacia omalophylla*		L	e
Yellow Elderberry	*Sambucus australasica*		L	v
Yellow Hyacinth-orchid	*Dipodium hamiltonianum*		L	e
Yellow-lip Spider-orchid	*Caladenia xanthochila*	EN	L	e
Yellow-tongue Daisy	*Brachyscome chrysoglossa*		L	v

Mosses and Liverworts

Common Name	Scientific Name	EPBC Status	FFG Status	Victorian Status
Alpine Leafy Liverwort	*Pseudocephalozia paludicola*	VU	L	v
Bogong Apple-moss	*Bartramia bogongia*		L	e
Cowlwort	*Colura pulcherrima var. bartlettii*		L	e
Feather-fan Germanderwort	*Riccardia eriocaula*		L	e
Kiwi Cave-moss	*Anoectangium bellii*		L	v
Shore Feather-moss	*Drepanocladus polygamus*		L	e
Southern Pedinophyllum	*Pedinophyllum monoicum*		L	v
Spiny-spore Riella	*Riella spiculata*		L	x
Tree-fern Calomnion	*Calomnion complanatum*		L	e

Fungi and Lichens

Common Name	Scientific Name	EPBC Status	FFG Status	Victorian Status
Black-beard Lichen	*Neuropogon acromelanus*		L	e
Clasping Hypocreopsis	*Hypocreopsis sp. A (Nyora)*		L	v
Foliose Lichen	*Xanthoparmelia suberadicata*		L	e

Ecosystems and Communities

EVC Group Name	EPBC Status	FFG Status	DEPI Advisory Status
Alpine Bog Community		L	
Alpine Snowpatch Community		L	
Butterfly Community No. 1		L	
Caltha introloba Herbland Community		L	
Central Gippsland Plains Grassland Community		L	
Coastal Moonah (Melaleuca lanceolata subsp. lanceolata) Woodland Community		L	
Cool Temperate Rainforest Community		L	
Cool Temperate Mixed Forest		L	
Creekline Grassy Woodland (Goldfields) Community		L	
Devonian Limestone Pomaderris Shrubland Community		L	
Dry Rainforest (Limestone) Community		L	
Fen (Bog Pool) Community		L	
Forest Red Gum Grassy Woodland Community		L	
Granite Foothills Spring Wetland (North-East Victoria) Community		L	
Grey Box - Buloke Grassy Woodland Community		L	
Herb-rich Plains Grassy Wetland (West Gippsland) Community		L	
Limestone Grassy Woodland Community		L	
Limestone Pomaderris Shrubland Community		L	
Lowland Riverine Fish Community of the Southern Murray-Darling Basin		L	
Montane Swamp Complex Community		L	
Northern Plains Grassland Community		L	
Plains Grassland (South Gippsland) Community		L	
Port Phillip Bay Entrance Deep Canyon Marine Community		L	
Red Gum Swamp Community No. 1		L	
Rocky Chenopod Open Scrub Community		L	
San Remo Marine Community		L	
Sedge Rich Eucalyptus camphora Swamp Community		L	
Semi-arid Herbaceous Pine - Buloke Woodland Community		L	
Semi-arid Herbaceous Pine Woodland Community		L	
Semi-arid Northwest Plains Buloke Grassy Woodlands Community		L	
Semi-arid Shrubby Pine - Buloke Woodland Community		L	
Victorian mallee bird community		L	
Victorian temperate-woodland bird community		L	
Warm Temperate Rainforest (Coastal East Gippsland) Community		L	
Warm Temperate Rainforest (Cool Temperate Overlap, Howe Range) Community		L	
Warm Temperate Rainforest (East Gippsland Alluvial Terraces) Community		L	
Warm Temperate Rainforest (Far East Gippsland) Community		L	
Western (Basalt) Plains Grasslands Community		L	
Western Basalt Plains (River Red Gum) Grassy Woodland Floristic Community 55-04		L	

Appendix 4 – List of Endemic Species of Victoria within the VicForests FMU

Common Name	Scientific Name	Habitat / Location Comments	In FMU (Y/N)
Leadbeater's Possum	*Gymnobelideus leadbeateri*	Mainly confined to the montane ash forests of the Central Highlands of Victoria	Y
Long-footed Potoroo	*Potorous longipes*	Two sites in East Gippsland although found in NSW	Y
Mountain Pygmy-possum	*Burramys parvus*	Restricted to the alpine-subalpine zone above 1400 m in East Gippsland;	N
Alpine She-oak Skink	*Cyclodomorphus praealtus*	The Alpine She-oak Skink inhabits sub-alpine woodlands, alpine grasslands and herbfields and low heathlands above 1500m in the Australian Alps, from Kiandra (NSW) in the north, to Lankey Plain on the Dargo High Plains in the south	N
Alpine Water Skink	*Eulamprus kosciuskoi*	Occurs in alpine and montane areas in south-eastern Australia.	N
Baw Baw Frog	*Philoria frosti*	The Baw Baw Frog is restricted to the Baw Baw Plateau and adjacent escarpment	N
Barred Galaxias	*Galaxias olidus var. fuscus*	Barred Galaxias have been collected only in low numbers from 16 streams and recently in high numbers from one stream, all in the headwaters of the Goulburn River system in the Victorian central highlands	Y
Mallacoota Burrowing Crayfish	*Engaeus mallacoota*	The Mallacoota Burrowing Crayfish is currently known from only two sites on the Western region of Mallacoota Inlet along the Double Creek Nature trail in Croajingolong National Park, in East Gippsland.	N
Mount Donna Buang Wingless Stonefly	*Riekoperla darlingtoni*	The taxon is known only from the vicinity of Mount Donna Buang, near Warburton, in the Victorian Central Highlands.	N
Narracan Burrowing Crayfish	*Engaeus phyllocercus*	The Narracan Burrowing Crayfish has been recorded over a 30km section of the highland region to the north and west of the western Strzelecki Ranges in South Gippsland, Victoria, at locations above 120m	N
Orbost Spiny Cray	*Euastacus diversus*	The Orbost Spiny Crayfish has one of the most restricted distributions of all Euastacus species, having been found at only seven locations on and around the Errinundra Plateau in East Gippsland.	Y
Sherbrooke Amphipod	*Austrogammarus haasei*	Recorded in the Dandenong Ranges in Victoria	N

Common Name	Scientific Name	Habitat / Location Comments	In FMU (Y/N)
South Gippsland Spiny Crayfish	*Euastacus neodiversus*	The South Gippsland Spiny Crayfish occurs at Wilsons Promontory and the Strzelecki Ranges in southern Victoria at elevations of 19 to 600 m above sea level.	N
Strzelecki Burrowing Crayfish	*Engaeus rostrogaleatus*	The Strzelecki Burrowing Crayfish has a very restricted distribution and occurs along a 30 km section of the Eastern Strzelecki Ranges in South Gippsland at high altitudes generally above 400 m	N
Warragul Burrowing Crayfish	*Engaeus sternalis*	The only known current locations of the species are on Labertuche Creek and Wattle Creek (a tributary of Labertouche Creek) in West Gippsland.	N
Buffalo Leek-orchid	*Prasophyllum suttonii*	The Buffalo Leek-orchid Prasophyllum suttonii is endemic to Victoria, having occurred in the Victorian Alps Bioregion (confined to the Mt Buffalo Plateau).	N
Concave Pomaderris	*Pomaderris subplicata*	The species is known only from one locality near Carboor Upper, approximately 40 km south east of Wangaratta in north-eastern Victoria	N
Granite Rustyhood	*Pterostylis sp. aff. boormanii*	Endemic to Victoria, occurring in the Victorian Northern Inland Slopes Bioregion in the vicinity of Beechworth.	N
Gully Grevillea	*Grevillea barklyana*	Gully Grevillea is endemic to Victoria and is confined to an area of about 50 km2 of State Forest and State Park in the Tarago River headwaters, and tributaries of the Bunyip River within the Bunyip State Park in West Gippsland.	Y
Kilsyth South Spider-orchid	*Caladenia sp. aff. venusta*	Endemic to Victoria occurring in Kilsyth within the Victorian Gippsland Plain Bioregion.	N
Marble Daisy-bush	*Olearia astroloba*	Marble Daisy-bush is endemic to Victoria. The only known population occurs at Marble Gully (also known as Old Hut Creek) near Bindi, in the Tambo valley north-east of Swifts Creek, East Gippsland	N
Marsh Leek-orchid	*Prasophyllum niphopedium*	The Marsh Leek-orchid Prasophyllum niphopedium D.L. Jones is endemic to Victoria, occurring in the Mt Cobberas-Benambra area within the Victorian Alps Bioregion.	N
Mignonette Leek-orchid	*Prasophyllum morganii*	Endemic to Victoria, occurring in the Victorian Highlands – Northern Fall Bioregion, but known only from the type locality near Cobungra.	N
Mount Pilot Spider-orchid	*Caladenia pilotensis*	Endemic to Victoria, occurring in the Victorian Northern Inland Slopes Bioregion in the vicinity of Mount Pilot.	N

Common Name	Scientific Name	Habitat / Location Comments	In FMU (Y/N)
Shiny Nematolepis	*Nematolepis wilsonii*	Shiny Nematolepis is now known only from a single population at the type locality, 720m above sea level in the Yarra Ranges National Park.	N
Tall Astelia	*Astelia australiana*	The species is endemic to Victoria-all 12 known colonies of Tall Astelia are within a relatively small area in the Powelltown-Beenak area of the Central Highlands.	Y
Warby Swamp Gum	*Eucalyptus cadens*	The species is endemic to northeastern Victoria. It was originally thought to be restricted to a single locality in the Warby Ranges but is now known from four subcatchments of the Ovens River.	N

Appendix 5 – References

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