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# NATURAL VALUES MANAGEMENT PLAN

## Objective

Describe the systematic process for identifying, assessing, managing and monitoring natural property values such as biodiversity, water, soil, social and Indigenous/historic heritage.

## Scope

This procedure is applicable to the entire Australian Bluegum Plantations (ABP) estate.

## Related Documents

<b>INTERNAL DOCUMENTS</b>
Natural Values Management and Monitoring Registers – WA and GT ABP Koala Management Plan Natural Values of the GT estate – Green Triangle Region "Special Values" South West of Western Australia Plantation Estate
<b>EXTERNAL DOCUMENTS</b>
Refer to Appendix 1

## Definitions and terms

TERM	DEFINITION
Best available information	Data, facts, documents, expert opinions, contact information and results of field surveys, review of publically available records or consultations with stakeholders that are most credible, accurate, complete, and/or pertinent and that can be obtained through reasonable effort and costs, subject to the scale and intensity of the management activities and the Precautionary Approach (Source: FSC® National Forest Stewardship Standard of Australia (FSC-STD-AUS-01-2018 EN). License code FSC-C019740.
Connectivity	A measure of how connected or spatially continuous a corridor, network, or matrix is. The fewer gaps, the higher the connectivity (Approach (Source: FSC National Forest Stewardship Standard of Australia (FSC-STD-AUS-01-2018 EN).
Conservation	Management activities designed to maintain the identified environmental or cultural values in existence long-term (Source: FSC National Forest Stewardship Standard of Australia (FSC-STD-AUS-01-2018 EN).
Cultural significance	<i>Aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significant is embedded in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects. Place may have a range of values for different individuals or groups (Australia ICOMOS Burra Charter, 2013)</i>
Ecosystem	A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit (Source: FSC National Forest Stewardship Standard of Australia (FSC-STD-AUS-01-2018 EN
Endangered EVC (Victoria only)	EVC where less than 10% of former range OR less than 10% pre-European extent remains (or a combination of depletion, loss of

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	quality, current threats and rarity that gives a comparable status e.g. 10 to 30% pre-European extent remains and severely degraded).
Environmental value	<ul style="list-style-type: none"> <li>• Ecosystem functions (carbon storage and sequestration)</li> <li>• Biological diversity (rare and threatened species, vegetation communities, habitat features, fauna and flora)</li> <li>• Water resources (water quantity and quality)</li> <li>• Soils (stability)</li> <li>• Atmosphere (air quality)</li> <li>• Landscape values (visual and amenity)</li> </ul> <p>(Source: FSC National Forest Stewardship Standard of Australia (FSC-STD-AUS-01-2018 EN))</p>
EVC (Victoria only)	Ecological Vegetation Classes (EVC) is a level of classification. An EVC consists of one or a number of floristic communities that appear to be associated with a recognisable environmental niche. Each EVC is described by a combination of its structure, floristic, life-form and reproductive strategy features, and through an inferred fidelity to particular environmental attributes.
Habitat	The place or type or site where an organism or population occurs (Source: FSC National Forest Stewardship Standard of Australia (FSC-STD-AUS-01-2018 EN)).
High Conservation Value (HCV)	<p><b>HCV 1 –Species diversity.</b> Concentrations of <i>biological diversity</i> including endemic species, and <i>rare, threatened</i> or endangered species, that are <i>significant</i> at global, regional or national levels.</p> <p><b>HCV 2 –Landscape-level <i>ecosystems</i> and mosaics.</b> Intact forest <i>landscapes</i> and large <i>landscape</i>-level <i>ecosystems</i> and <i>ecosystem</i> mosaics that are <i>significant</i> at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.</p> <p><b>HCV 3 –<i>Ecosystems</i> and <i>habitats</i>.</b> <i>Rare, threatened, or endangered ecosystems, habitats or refugia.</i></p> <p><b>HCV 4 –<i>Critical ecosystem services</i>.</b> Basic <i>ecosystem services</i> in <i>critical</i> situations, including <i>protection</i> of water catchments and control of erosion of vulnerable soils and slopes.</p> <p><b>HCV 5 –Community needs.</b> Sites and resources fundamental for satisfying the basic necessities of <i>local communities</i> or <i>Indigenous Peoples*</i> (for livelihoods, health, nutrition, water, etc.), identified through <i>engagement</i> with these communities or <i>Indigenous Peoples</i>.</p> <p><b>HCV 6 –Cultural values.</b> Sites, resources, <i>habitats</i> and <i>landscapes</i> of global or national cultural, archaeological or historical significance, and/or of <i>critical</i> cultural, ecological, economic or religious/sacred importance for the traditional cultures of <i>local communities</i> or <i>Indigenous Peoples</i>, identified through <i>engagement</i> with these <i>local communities</i> or <i>Indigenous Peoples</i>.</p> <p>(Source: FSC National Forest Stewardship Standard of Australia (FSC-STD-AUS-01-2018 EN))</p>
Historic heritage	Relate to the occupation and use of Australia since the arrival of European and other migrants, including pre-1788 Asian and European exploration, contact and settlement sites. Examples include rare remnants of early convict history, contact sites, pastoral properties,

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	small remote settlements and large urban areas, engineering works, factories and defence facilities, shipwreck and archaeological sites (Australia Government, 2016)
Interim Biogeographic Regionalisation for Australia (IBRA)	A biogeographic regionalisation of Australia developed by the Australian Government (Source: FSC National Forest Stewardship Standard of Australia (FSC-STD-AUS-01-2018 EN).
Indigenous heritage	Aboriginal and Torres Strait Islander heritage which extends back across many tens of thousands of years and is of continuing significance, creating and maintaining links between the people and the land. Examples include occupation sites, rock art, carved trees, places with known spiritual values, important water or landscapes laded with meaning to people from that Country, and places with contemporary value to Indigenous people (Australian Government, 2016).
Intact Forest Landscapes	seamless mosaic of forest and naturally treeless ecosystems within the zone of current forest extent, which exhibit no remotely detected signs of human activity or habitat fragmentation and is large enough to maintain all native biological diversity, including viable populations of wide-ranging species (Source: Intact Forest Landscapes, 2006-2017)
MU	Management Unit
Old Growth Forest	Ecologically mature forest where the effects of disturbances are now negligible ((Source: FSC National Forest Stewardship Standard of Australia (FSC-STD-AUS-01-2018 EN).
Precautionary approach	An approach requiring that when the available information indicates that management activities pose a threat of severe or irreversible damage to the environment or a threat to human welfare, The Organisation will take explicit and effective measures to prevent the damage and avoid the risks to welfare, even when the scientific information is incomplete or inconclusive, and when the vulnerability and sensitivity of environmental values are uncertain.  (Source: Based on Principle 15 of Rio Declaration on Environment and Development, 1992, and Wingspread Statement on the Precautionary Principle of the Wingspread Conference, 23–25 January 1998).
Protection	See Conservation definition
Representative Sample Areas (RSAs)	Portions of the management unit delineated for the purpose of conserving or restoring viable examples of an ecosystem that would naturally occur in that geographical region.  (Source: FSC National Forest Stewardship Standard of Australia (FSC-STD-AUS-01-2018 EN).
Refugia	An isolated area where extensive changes, typically due to changing climate or disturbances such as those caused by humans, have not occurred and where plants and animals typical of a region may survive.  (Source: FSC National Forest Stewardship Standard of Australia (FSC-STD-AUS-01-2018 EN).

## Identify and Assess Natural Values\*

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### **Identify**

#### Indigenous heritage\*

At acquisition and prior to harvesting of ABP sites, relevant Indigenous heritage sources are consulted for each property. [Appendix 1](#) provide more information on these sources. Further consultation with local Indigenous groups may be required if a site is identified during this process. Land acquisition is conditional upon the results of the cultural heritage check. Cultural heritage sites are recorded in the Natural Values Management and Monitoring Registers.

In the event of a previously unknown site being discovered during operations, the following will occur. Staff and contractors are told about this process during their induction.

1. All works will cease immediately
2. The area will be secured to prevent consequential damage
3. The ABP Supervisor/Representative will be notified
4. The ABP Supervisor/Representative will consult with relevant Indigenous groups or authorities about the long term protection of the site
5. Work will recommence only after approval by ABP has been given

Where applicable, The Aboriginal Heritage Due Diligence Guidelines and the Burra Charter: The Australia ICOMOS Charter of Places of Cultural Significance 1999 will be used to guide the above.

#### Historic heritage\*

Prior to property establishment and harvesting of ABP sites the Environmental Manager/ABP staff member will identify any known Historic heritage areas using sources listed in Appendix 1.

#### Environmental values\*

Prior to establishment and harvesting of ABP sites the Environmental Manager/ABP staff member will identify any known environmental values using information from existing Natural Values Registers, sources listed in [Appendix 1](#) and through consultation with operations staff.

Records of searches will be saved to property folders.

#### Regional catchment goals

In consultation with relevant stakeholders listed in Appendix 1, any authorised regional catchment goals will be identified where available and recorded into the relevant Natural Values Management and Monitoring Register.

#### EVCs

For Victorian plantations, the endangered EVC layer from the Biodiversity Mapping Tool is overlaid with the plantation. Endangered EVCs not intersecting with plantations are displayed on the Environment and Hazard Maps. These areas are to be treated as strict exclusion zones from forest operations. There are certain EVCs that meet the criteria of HCVF and will be displayed as HCVF on the plantation maps. These are EVC 55\_61, 55\_63, 651, 649, and 897.

### **Assess, consult and document**

The Environmental Manager and/or other ABP Representative will assess each of the identified values for significance against the criteria listed in Appendix 2. The assessment of each value needs to consider the following.

1. Consult the best available information\* to identify relevant datasets and prepare lists and maps of potential HCV accordingly (*Note best available information has been listed under each HCV category in Appendix 2*).
2. Consult experts and other knowledgeable stakeholders to identify HCVs.
3. Undertake a threat assessment\* of management activities on identified HCVs.
4. Identify management required to maintain and/or enhance identified HCVs.

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5. Develop a program of periodic monitoring” and adaptive management\* as required.
6. Consult stakeholders on assessment, management and monitoring. Records of consultation will be logged into the appropriate Stakeholder Register.
7. Finalise assessment and implement management and monitoring plan.

Representative Sample Areas (RSA) are selected as part of the HCV assessment process. Each RSA is selected to reflect a particular native ecosystem of the landscape. Once HCV, other values and RSA have been confirmed details of their location, values, threats, management, and monitoring will be recorded in the relevant Natural Values Management and Monitoring Register, and then communicated to ABP staff via email and/or regional meetings. Where appropriate, results are made publically available through industry forums and community workshops.

Regional Natural Values Booklets are an additional resource to communicate values and educational resources for staff and contractors. Booklets are updated as required. In addition to the booklets contractors are made aware of values through inductions; environment and hazard maps and harvest plans.

### **Management of High Conservation, RSA and Other Values**

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Each identified HCV and RSA including resources and habitat of rare and threatened species will be maintained, protected or enhanced and its management outlined in the relevant Natural Values Management and Monitoring Register. Primarily areas of HCV, RSA and other values are excluded from our key operations. Where available, recovery plans, conservation advices and/or equivalent instruments will be considered when developing management prescriptions for rare and threatened species. To ensure this information is up to date ABP will use the following sources.

#### WA – Department of Biodiversity, Conservation and Attractions

Approved recovery plans

##### Animals

<https://www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-animals#recoveryplans>

##### Plants

<https://www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants?view=categories&id=108>

##### Threatened Ecological Communities

<https://www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/wa-s-threatened-ecological-communities>

#### VIC – Department of Environment, Land, Water and Planning (DELWP)

<http://www.depi.vic.gov.au/environment-and-wildlife/threatened-species-and-communities/flora-and-fauna-guarantee-act-1988/action-statements>

#### SA – Department of Environment, Water and Natural Resources

Plants - [http://www.environment.sa.gov.au/managing-natural-resources/Plants Animals/Threatened species ecological communities/Recovery planning/Plans for threatened plants in SA](http://www.environment.sa.gov.au/managing-natural-resources/Plants%20Animals/Threatened%20species%20ecological%20communities/Recovery%20planning/Plans%20for%20threatened%20plants%20in%20SA)

Animals - [http://www.environment.sa.gov.au/managing-natural-resources/Plants Animals/Threatened species ecological communities/Recovery planning/Plans for threatened animals in SA](http://www.environment.sa.gov.au/managing-natural-resources/Plants%20Animals/Threatened%20species%20ecological%20communities/Recovery%20planning/Plans%20for%20threatened%20animals%20in%20SA)

Ecological communities - [http://www.environment.sa.gov.au/managing-natural-resources/Plants Animals/Threatened species ecological communities/Recovery planning/Plans for nationally threatened ecological communities in SA](http://www.environment.sa.gov.au/managing-natural-resources/Plants%20Animals/Threatened%20species%20ecological%20communities/Recovery%20planning/Plans%20for%20nationally%20threatened%20ecological%20communities%20in%20SA)

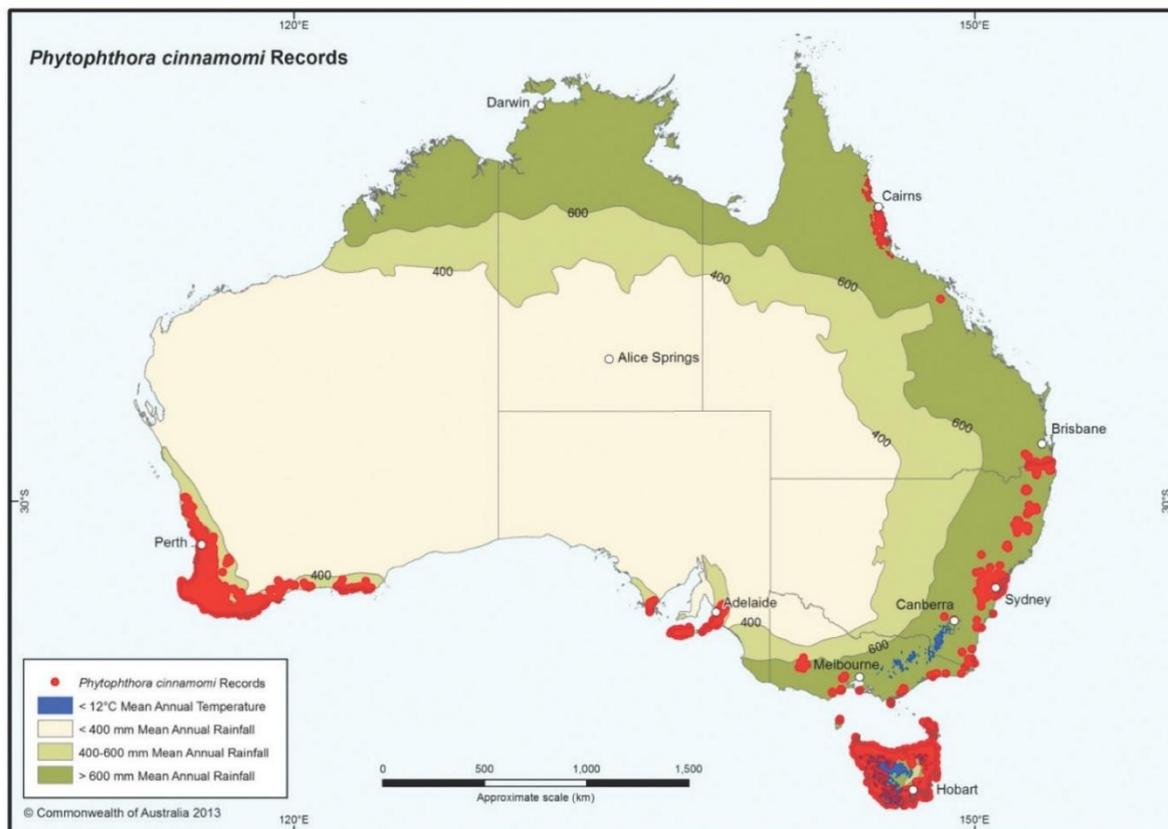
SPRAT - <http://www.environment.gov.au/cgi-bin/sprat/public/publicshowallrps.pl>

## Threats

The following section provides information on the key threats across the ABP estate

### Dieback

Australian biodiversity assets are threatened by the spread of *Phytophthora cinnamomi*, commonly referred to as dieback. Susceptible plants may die out completely where infection is present. Figure 1 below shows the location of *P. cinnamomi* records throughout Australia.



**Figure 1.** Records of *P. cinnamomi* throughout Australia (Commonwealth of Australia, 2014a)

*P. cinnamomi* is found throughout areas of Mediterranean climate which receive above 600 mm annual rainfall. Where annual rainfall is between 400 mm and 600 mm, *P. cinnamomi* tends to be confined to stream systems and road verges (especially table drains).

Figure 1 shows dieback is widespread throughout the southwest of Western Australia, extending between Eneabba and Esperance. More than 40% of plant species in this region are susceptible to dieback and once infected are killed. There are also records of dieback from the Grampians in Victoria, however the spread of dieback has not been comprehensively documented in Victoria. Common native plants that are susceptible include Jarrah, Banksia, grass trees, Zamia palms, Dryandra and Hakea species.

Signs that plant death could be caused by *P. cinnamomi* include:

- Lines, groups or localised areas of plant deaths are more likely to be caused by *P. cinnamomi* than odd, scattered individual plant deaths in otherwise healthy vegetation.
- An edge effect. Edge effects are most obvious when there is a clear distinction between healthy and diseased vegetation.
- Old deaths and recently killed plants, that is, an 'age range' in the deaths. This is because *P. cinnamomi* moves from plant to plant over time, killing each plant as it goes.

- Plant deaths that are localised within a distinct area of the property often at a low lying water accumulating area. Lines, groups or localised areas of plant deaths are more likely to be caused by *P. cinnamomi* than odd scattered individual plant deaths in otherwise healthy vegetation.
- Signs of the disease in a range of susceptible plant species.
- Something that could have introduced the disease, for example a track, road or vehicle activity.

ABP has assessed the risk of operational activities spreading dieback as high in Western Australia and as moderate within the Green Triangle. The 'Framework for Hygiene Management Planning' in Appendix 4, outlines the assessment process that all ABP blocks are assessed against prior to activities commencing.

In general the following standard hygiene strategies are recommended across all high risk areas (SCNRM, 2011).

1. Restrict activities to dry soil conditions whenever possible and/or low rainfall months (Nov-Mar). 'Dry' means at a level where there is no significant pickup of soil/gravel/mud from road/track surfaces. This practice will reduced the time needed for vehicle clean down at hygiene points.
2. Ensure all vehicles/equipment/footwear are free of soil prior to entering and exiting bushland or adjacent areas and clean down between sites.
3. Minimise soil disturbance wherever possible.
4. Develop plan for traffic management to protect uninfected areas.
5. Develop plan for movement between sites within bushland area to flow from uninfested to infested areas.
6. Only uninfested raw material will be used for all earthworks within dieback free or protectable areas and/or in-situ material in uninterpretable areas.
7. Staff to attend a dieback information workshop prior to commencement of on-ground works.

For more information on dieback see [Dieback.org.au](http://dieback.org.au) or <http://www.dieback.net.au/>.

Where dieback is present in the GT, and there is a threat it could be spread, ABP will operate in accordance with the Victorian Code of Practice for Timber Plantations (2014) and the Guidelines for Plantation Forestry in South Australia (2009) and appropriate hygiene measures will be implemented.

Dieback has been identified in the EPBC Act as a threatening process. As outlined in the *Threat abatement plan for disease in natural ecosystems caused by Phytophthora cinnamomi* (Commonwealth of Australia, 2014b), Commonwealth, State, Territory and local Governments have identified priorities listed to better inform the threat of *P. cinnamomi* in Australia. As these priorities are completed, ABP will ensure that the information obtained is incorporated into future revisions of this Natural Values Management Plan as '*The costs of on-ground survey and sample analyses have made the initial mapping or updating of maps expensive and only applicable ahead of major operations requiring disease demarcation*' (Commonwealth of Australia, 2014a).'

### **Myrtle Rust**

The primary biosecurity threat to ABP is Myrtle Rust. ABP's management response is guided by the 4 categories for emergency plant pests and diseases according to [Plant Health Australia](#) (PHA). The Australian plantation industry is signatory to the Emergency Plant Pest Response Deed which is a legally binding agreement between PHA, the Australian Government, all state and territory governments and national plant industry body signatories.

### **Weeds/Wildlings**

Declared weeds and Weeds of National Significance (WONS) are controlled as per legislative requirements. Control of regional priority and agricultural weeds is undertaken in consultation with relevant stakeholders and where it is cost effective to do so. Wildlings are monitored through property inspections and control programs discussed, prioritised and actioned at regional operational meetings.

Refer to Weed and Pest Control procedure (OP-7018) and Weed and Pest Control Reference Guide for procedures and chemical rates etc.

## ***Feral Animals***

Fox, rabbit, pig and dog control programs are undertaken in accordance with schedules outlined in the Natural Values Management and Monitoring Registers and in conjunction with community programs (eg. conservation action plans, catchment group programs) where a population is of concern to neighbours or there is an increase in numbers which threaten natural areas and the fauna they support. Where possible to improve effectiveness programs are undertaken in conjunction with others conducted by stakeholders.

## ***Fencing and Stock Exclusion***

Livestock is considered a threat to all natural values and will be excluded.

## **Other Management**

### ***Standing and fallen dead wood habitats***

Standing and fallen dead wood habitats are generally retained as they provide important habitat for birds, bats and other fauna. Large dead trees with tree hollows are protected by Environmental Significance Overlays in parts of the Green Triangle region (West Wimmera Shire and Glenelg Shire) due to their importance as nesting habitat for the South-eastern Red-tailed Black Cockatoo, therefore permits are required for tree removal in these areas. If there is a particular circumstance where a standing tree may need to be removed in any jurisdiction, independent advice from the relevant authority will be obtained before removal. Further information can be found at:

[http://planning-schemes.delwp.vic.gov.au/schemes/westwimmera/ordinance/42\\_01s02\\_wwim.pdf](http://planning-schemes.delwp.vic.gov.au/schemes/westwimmera/ordinance/42_01s02_wwim.pdf)

[https://www.glenelg.vic.gov.au/C82\\_Redtailed\\_Black\\_Cockatoo](https://www.glenelg.vic.gov.au/C82_Redtailed_Black_Cockatoo)

### ***Koala Program***

Koalas are currently protected in Victoria under the Wildlife Act 1975 and the Prevention of Cruelty to Animals Act 1986. ABP has been issued with an authorisation to disturb koalas under Section 28A (1A) of the Wildlife Act 1975 by the Department of Environment, Land, Water and Planning (DEWLP). ABP is actively involved and represented on the Koala Leadership Committee. Koalas currently reside in some of ABP's estate located within the Green Triangle, and may be at risk from harvesting and silviculture activities. To mitigate these risks and meet the requirements of ABP's Koala Management Plan, ABP engages dedicated koala spotting and welfare contractors, who implement the requirements of the Koala Management Plan. These requirements include surveying; controlling risks; incident reporting; and monitoring of koalas during and post operational activities. Relevant ABP staff and contractors working in these areas are trained in accordance with the requirements of this Plan. In pursuit of continuous improvement, ABP regularly undertakes a review of its performance against the Plan and implements strategies to minimise harm to Koalas.

### ***Management of Native Vegetation, Wetlands and Natural Ecosystems***

Remnant native vegetation, wetlands and other natural ecosystems are treated as strict exclusion zones when undertaking forest operations. They have the same level of protection as HCVF, however the management and monitoring requirements may differ. Controlling high impact weeds, rabbits, fencing, stock exclusion or grazing are the most common management tools as outlined above. Decisions on what management is to be applied depends on location, extent, degree of threat, budget/cost, inclusion in other programs, and community involvement. HCVF has priority over other values.

In the GT region native grasslands are highly threatened. Prior to new plantations being established, existing grassland mapping will be consulted. A more detailed on ground assessment may be required where grasslands are likely to occur on new plantations.

Seasonal herbaceous wetlands are another important value for the GT region requiring careful consideration when new plantations are established or rotated, as the footprint of these wetlands changes dramatically in wet conditions. Existing wetland mapping will be consulted. And a more detailed assessment undertaken where wetlands are likely to occur.

<http://www.environment.gov.au/cgi-bin/sprat/public/publicshowcommunity.pl?id=97>

## ***Cultural heritage (includes Indigenous and historic heritage)***

Primarily areas of cultural significance are fenced where appropriate, and managed in accordance with Natural Values Management and Monitoring Register.

## ***Soil and water protection***

Soil and water protection is vital to ensure the ongoing sustainability of the land resource. ABP will take reasonable steps to mitigate any real or potential offsite environmental and or social impacts.

### *Soil*

Operational procedures and controls ensure measures are in place to evaluate the potential impacts on the soil prior to commencing operations and to take any necessary actions to manage these risks. During operations and once they have been completed, monitoring takes place to evaluate the effectiveness of the controls and revise them if necessary.

#### 1. *Soil erosion*

Under normal circumstances, forestry operations on ABP's blue gum plantations do not produce a significant risk of erosion. Soil erosion can be caused by forestry operations and ABP actively minimises soil erosion through the implementation of the following procedures.

- Land Preparation (OP-7009)
- Plantation Access and Roding Specifications (OP-7439)
- Harvest Operation (OP-7403)
- Harvest Planning (OP-7400)

#### 2. *Nutrient Retention*

ABP monitors the nutrient status of the plantations through foliar sampling and or soil analysis and can apply fertiliser to sites that are deficient in nutrients. Forestry practices are conducted to take nutrient status into consideration.

The following procedures outline how residues are managed and soil nutrients are maintained.

- Harvest Operation (OP-7403)
- Nutrition Procedure (OP-7021)
- Research (external and Internal)
- Harvest Planning (OP-7400)

#### 3. *Compaction*

Soil compaction may occur on our operations due to excessive skidding or machinery traversing the same terrain frequently. Methods to minimise compaction include using broadcast slash and minimising movement over the same tracks. The following procedures outline how residues are managed.

- Land Preparation (OP-7009)
- Harvest Operation (OP-7403)
- Harvest Planning (OP-7400)

#### 4. *Pollution*

Soil pollution may occur during operations through accidental discharge (spill) of fuels, oils, pesticides and fertilizer. ABP has developed the following procedures to substantially reduce the risk of accidental discharge and to clean up and properly dispose of contaminated soil if accidental discharge of pollutants occur.

- Employee and contractor inductions
- Spill response Plan (OP-2001)
- Weed and Pest Control (OP-7018)

- Nutrition Procedure (OP-7021)
- Harvest Planning (OP-7400)

### 5. Water

Forestry activities have the potential to interact both positively and negatively with aquatic resources. ABP's planning and management of their plantations will look to mitigate and/or eliminate potential negative impacts while taking into account the positive aspects of forestry, such as aquatic biodiversity enhancement. Water pollution may be caused by soil erosion or the uncontrolled discharge of chemicals. To minimise/prevent chemical runoff, ABP establishes and maintains buffer zones, which aim to improve the condition of native riparian vegetation.

1. Water pollution is caused in part by soil particles entering the water as a result of soil erosion. Correct planning, especially on certain sites where there is a greater risk of erosion and subsequent water pollution is essential. Correct use of setbacks and buffers is also essential to protect water quality. ABP has written the following procedures to substantially reduce the risk of water pollution from soil particles entering the water.
  - Land Preparation (OP-7009)
  - Plantation Access and Roding Specifications (OP-7439)
  - Harvest Operation (OP-7403)
  - Harvest Planning (OP-7400)
2. Water pollution from hydrocarbons, pesticides and fertilisers. Accidental spillage or leakage is detrimental to aquatic flora and fauna and can impair water quality. Training and safety are of primary importance to ensure correct use of pesticides and fertilizers. ABP has written the following procedures to substantially reduce the risk of water pollution from chemicals entering the water.
  - Employee and contractor inductions
  - Spill response Plan (OP-2001)
  - Weed and Pest Control (OP-7018)
  - Nutrition Procedure (OP-7021)

#### ***Prescribed burning***

Natural areas for ecological burning programs will be identified during plantation monitoring, annual HCVF assessments and in consultation with ABP staff and relevant environmental stakeholders. A burn plan and report will be completed by the Silvicultural Manager and HSEC staff. ABP in consultation with local landowners and authorities such as Department of Biodiversity, Conservation and Attractions; Department of Environment, Water, Land and Planning; Department of Fire and Emergency Services (DFES), Country Fire Authority (CFA) and Country Fire Services (CFS) will give consideration to any state legislative requirements, the objectives of the burn, plant and animal species known or presumed to be present, and the potential fire hazard of the native vegetation and adjacent land use.

At least 48 hours before a burn, neighbours and local brigades (if in restricted fire period) will be notified by the relevant Silvicultural Forester. Permits will be obtained where required. On the morning of the impending burn, a spot weather forecast with 4 day outlook will be obtained from the Bureau of Meteorology ensuring the optimum weather requirements outlined in the burn plan will be met ie. Suitable wind speed/direction, temperature and relative humidity. Once it is clear weather conditions are favourable, confirmation should then be given to the local Fire Control Officer that the burn will proceed. This should be done on the morning of the fire, prior to any lighting.

Once it has been confirmed the burn will go ahead roadside signs will be erected where required. All personnel participating in the burn will have the appropriate training and personal protection equipment (PPE). All staff involved in the burn will be made aware of the burn plan, lighting pattern and be in constant communication with the burn supervisor.

## ***Other burns***

There are various ways fires can start and enter land under ABP's management. For example lightning strikes, neighbours undertaking burning operations that have escaped or machine fires.

Post burn, areas of remnant vegetation will be monitored to assist with management of these areas.

Completed burn plans and reports are saved electronically and in hard copy.

## ***Regional catchment goals and hydrological flows***

Forest operations will be managed to ensure hydrological flows are in accordance with any authorised regional goals, where available. Where these goals are not available, the adverse environmental impacts of changes in hydrological flows will be minimised by ensuring that:

- the long term and short term disturbances to hydrological flows relative to the existing situation are considered; and
- the environment impacts of both increased and reduced hydrological flows are taken into account.

Any goals and management thereof will be documented in the relevant state Natural Values Management and Monitoring Register.

## ***Rehabilitation, enhancement and restoration***

On occasion opportunities for surveying, rehabilitation, enhancement and restoration of areas with HCV, a RSA or other values may arise. When selecting areas for such work the following will be considered in consultation with relevant stakeholders:

- Benefit to biodiversity protection;
- Benefit to community;
- Cost and availability of funding;
- Cost effectiveness;
- Condition ratings;
- Ecosystem representativeness and significance;
- Ownership of the land; and
- Size and connectivity
- The potential to create wildlife corridors.

Any regeneration activities must be undertaken in accordance with relevant Standard requirements and detailed records including suitable selection of trees species and weed management maintained.

## ***Wildlife corridors***

Wildlife corridors will be managed appropriate to rare, threatened and endangered species present within the ecological landscape. This will be done in consultation with relevant stakeholders; management documents (such as Recovery Action Plans and Conservation Advices); and spatial data. Management of biodiversity and environmental works will consider wildlife corridors and habitat connectivity on a landscape scale in order to most effectively plan and implement projects that are of benefit.

## **Monitoring**

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### **HCV**

Monitoring regimes for specific management objectives from external consultant assessments such as Greening Australia are based on their recommendations and taking into consideration relevant recovery plans, conservation advices and other stakeholder input. These regimes are recorded in the Natural Values Management and Monitoring Registers and monitored as part of annual assessments.

Annual assessments of HCV/RSA are undertaken by ABP staff and/or consultants using the Natural Values Assessment form on I Forms. These checks assess current management practices; weeds, pest and disease; grazing; wildfire; any previously undertaken prescribed burning or revegetation programs; off-site impacts; indicator species (where identified) and condition. The most appropriate indicator species

are selected which can demonstrate whether the current management actions are being effective. If current management practices are found to be ineffective or there has been a significant change a review is conducted and management changed/improved where required in consultation with staff and relevant stakeholders such as Department of Biodiversity, Conservation and Attractions; Department of Environment, Land, Water and Planning and local natural resource management organisations.

### **Other values**

Other values are monitored during the year as part of routine plantation inspections. This is recorded using I-Forms.

### **Offsite impacts**

Offsite impacts such as fire, weeds, soil erosion, spray drift and wildings are monitored during the year through routine plantation inspections, operations and as part of HCVF monitoring.

### **External monitoring programs**

Where available ABP will review results from external monitoring programs and consider these when developing management and monitoring regimes. Some examples include:

- [Red Tailed Black Cockatoo Recovery Project](#)
- Carnaby's Black Cockatoo Recovery Project
- Conservation Action Planning (CAP) programs
- Catchment group community coordinated programs eg. Fox-off, weed control

### **Training**

Contractors and employees will be made aware of any values at inductions using the regional Natural Values Booklets and environment and hazard maps. After this time meetings, newsletters, maps, plans and bulletins will be used to communicate any additional values or changes.

Staff will also undergo cultural heritage awareness training every five years.

### **References**

Australian Government (2015). *Statement of the Environment 2016 Report*. Retrieved from <https://soe.environment.gov.au/theme/heritage/topic/2016/types-heritage>

Commonwealth of Australia (2014a). *Background: Threat abatement plan for disease in natural ecosystems caused by Phytophthora cinnamomi*, Commonwealth of Australia.

Commonwealth of Australia (2014b). *Threat abatement plan for disease in natural ecosystems caused by Phytophthora cinnamomi*, Commonwealth of Australia.

Forest Stewardship Council® (FSC-C019740) (2018). *FSC National Forest Stewardship Standard of Australia (FSC-STD-AUS-01-2018 EN)*. Policy and Standards Committee, Melbourne, Australia.

Intact Forest Landscapes (2006-2019). *Intact Forest Landscapes*. Retrieved from <http://intactforests.org/>.

*The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013*. Retrieved from <https://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf>

Koch, P. (2012). Summary Report: Identification and Mapping of High Conservation Value Areas across the Australian Bluegum Plantation Estate.

Koch, P. (2019). *Environmental Management Priorities for the Australian Bluegum Plantation Estate*.

Appendix 1 - Values and tools used for identification

Environmental values		
Value to be Identified	Source of Information	Features
Protected areas on or adjacent to the Forest Management Unit (FMU), including RAMSAR wetlands, nationally significant wetlands, national parks, formal reserves, protection covenants	<u>Global</u> UNESCO <a href="http://whc.unesco.org/en/list">http://whc.unesco.org/en/list</a> World Heritage finder	<ul style="list-style-type: none"> <li>World heritage sites</li> </ul>
	<u>Ramsar</u> <a href="https://www.ramsar.org/about/wetlands-of-international-importance-ramsar-sites">https://www.ramsar.org/about/wetlands-of-international-importance-ramsar-sites</a>	<ul style="list-style-type: none"> <li>Provides information on wetlands of international importance</li> </ul>
	<u>National</u> Protective Matters Interactive Search Tool <a href="http://www.environment.gov.au/arcgis-framework/apps/pmst/pmst.jsf">http://www.environment.gov.au/arcgis-framework/apps/pmst/pmst.jsf</a>	A mapping tool that shows such features as: <ul style="list-style-type: none"> <li>RAMSAR Wetlands</li> <li>Nationally protected areas</li> <li>Commonwealth Heritage</li> <li>Commonwealth Cultural heritage</li> </ul>
	All states Environmental Reporting Tool <a href="http://www.environment.gov.au/erin/ert/index.html">http://www.environment.gov.au/erin/ert/index.html</a>	A reporting tool that provides regional information including: <ul style="list-style-type: none"> <li>World heritage properties</li> <li>Australian Heritage sites</li> <li>RAMSAR sites</li> <li>Nationally Important Wetlands</li> <li>Reserves and Conservation Areas</li> </ul>
	<u>Victoria</u> NatureKit <a href="http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit">http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit</a>	<ul style="list-style-type: none"> <li>RAMSAR wetlands</li> </ul>
	<u>South Australia</u> Department of Environment and Natural Resources <a href="http://www.environment.sa.gov.au/parks/">http://www.environment.sa.gov.au/parks/</a>	<ul style="list-style-type: none"> <li>Information on national parks</li> </ul>
	<u>Western Australia</u> Department of Biodiversity, Conservation and Attractions <a href="https://www.dpaw.wa.gov.au/parks">https://www.dpaw.wa.gov.au/parks</a> <a href="https://parks.dpaw.wa.gov.au/">https://parks.dpaw.wa.gov.au/</a>	<ul style="list-style-type: none"> <li>Information on national and conservation parks</li> </ul>

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	Consultation with local people and forest workers about recent sightings	
Areas that contain species that are depleted or poorly reserved at the IBRA region scale	<p><u>National</u>  <a href="http://www.environment.gov.au/system/files/pages/3a086119-5ec2-4bf1-9889-136376c5bd25/files/underrepresented-capad-2014.pdf">http://www.environment.gov.au/system/files/pages/3a086119-5ec2-4bf1-9889-136376c5bd25/files/underrepresented-capad-2014.pdf</a></p>	Under represented bioregions (IBRA regions with less than 10% protection)
Vegetation type and conservation status (under state and commonwealth legislation)	<p><u>South Australia</u>            Native vegetation mapping  <a href="http://www.environment.sa.gov.au/Science/Science_research/Seascapes_landscapes_and_communities/Ecological_community_mapping/Native_vegetation_mapping_techniques">http://www.environment.sa.gov.au/Science/Science_research/Seascapes_landscapes_and_communities/Ecological_community_mapping/Native_vegetation_mapping_techniques</a></p> <p><a href="http://www.environment.sa.gov.au/managing-natural-resources/native-vegetation/maps-assessment-monitoring">http://www.environment.sa.gov.au/managing-natural-resources/native-vegetation/maps-assessment-monitoring</a></p> <p><a href="http://www.environment.gov.au/land/native-vegetation/national-vegetation-information-system">http://www.environment.gov.au/land/native-vegetation/national-vegetation-information-system</a></p>	<ul style="list-style-type: none"> <li>Identifies vegetation types that are not well protected in reserves</li> <li>Illustrates the location and extent of communities of conservation significance.</li> </ul>
	<p><u>Victoria</u>            NatureKit  <a href="http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit">http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit</a></p>	<ul style="list-style-type: none"> <li>Plant communities and forest types (including species and structural information);</li> <li>Ecological information relevant to the species that comprise the communities (including life-form and reproductive strategies).</li> <li>Ecological vegetation classes</li> </ul>
	<p><u>Western Australia</u>            Native Vegetation Viewer  <a href="https://www2.landgate.wa.gov.au/web/guest">https://www2.landgate.wa.gov.au/web/guest</a>  <a href="https://www2.landgate.wa.gov.au/bmvf/app/waatlas/">https://www2.landgate.wa.gov.au/bmvf/app/waatlas/</a>  <a href="https://secure.dec.wa.gov.au/idelve/nv/home.html">https://secure.dec.wa.gov.au/idelve/nv/home.html</a>            Albany Vegetation Survey (On CD)</p>	Location of environmentally sensitive areas, as declared by a Notice under section 51B of the Environmental Protection Act 1986

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	Beard mapping – L/ALB/HSEC/Natural Values	
Presence of threatened and endangered and endemic flora and fauna (under state and commonwealth legislation)	<u>Global</u> IUCN Red List of Threatened Species (vulnerable, endangered or critically endangered) <a href="http://www.iucnredlist.org/">http://www.iucnredlist.org/</a>	<ul style="list-style-type: none"> <li>highlights those plants and animals that are facing a higher risk of global extinction</li> </ul>
	<u>Birdlife International</u> <a href="http://www.birdlife.net">www.birdlife.net</a>	Lists of Important Bird Areas (IBAs) and Endemic Bird Areas (EBAs)
	<u>WWF Priority Places</u> <a href="http://wwf.panda.org/what_we_do/where_we_work/">http://wwf.panda.org/what_we_do/where_we_work/</a>	Ecoregions with exceptional levels of biodiversity, such as high species richness or endemism, or those with unusual ecological or evolutionary phenomena.
	<u>Conservation International Hotspots Biodiversity Hotspots</u> <a href="http://www.conservation.org/How/Pages/Hotspots.aspx">http://www.conservation.org/How/Pages/Hotspots.aspx</a>	<ul style="list-style-type: none"> <li>Areas supporting natural ecosystems that are largely intact and where native species and communities associated with these ecosystems are well represented.</li> <li>Areas with a high diversity of locally endemic species, which are species that are not found or are rarely found outside the hotspot.</li> </ul>
	<u>National</u> Protected Matters Search Tool <a href="http://www.environment.gov.au/erin/ert/index.html">http://www.environment.gov.au/erin/ert/index.html</a>	A reporting tool that provides regional information including: Threatened species under the EPBC Act
	<u>National</u> Species Profile and Threats Database (SPRAT) - Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) <a href="http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl">http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl</a>	List of migratory species under the EPBC Act
	<u>Victoria</u> Department of Sustainability and Environment Threatened Species Advisory Lists <a href="http://www.depi.vic.gov.au/environment-and-wildlife/threatened-species-and-">http://www.depi.vic.gov.au/environment-and-wildlife/threatened-species-and-</a>	<ul style="list-style-type: none"> <li>Rare and threatened plants</li> <li>Threatened vertebrate and invertebrate fauna</li> </ul>

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	<a href="#">communities/threatened-species-advisory-lists</a>	
	Threatened species education and information resources <a href="http://www.depi.vic.gov.au/environment-and-wildlife/threatened-species-and-communities">http://www.depi.vic.gov.au/environment-and-wildlife/threatened-species-and-communities</a>	Information on threatened plants, animals and communities
	<a href="#">South Australia Nature Map SA</a>	<ul style="list-style-type: none"> <li>• Nature Links corridors</li> <li>• flora and fauna</li> <li>• vegetation</li> <li>• protected areas</li> <li>• landscapes</li> <li>• heritage</li> <li>• fire</li> <li>• planning and management</li> <li>• topography and imagery</li> </ul>
	<a href="#">Western Australia Nature Maps</a>	Threatened and priority plant species
	Requested data files through Department of Environment and Conservation (DEC)	Threatened communities, animals and plants
Declared water catchments	<a href="#">Victoria</a> <a href="http://vro.agriculture.vic.gov.au/dpi/vro/vrosite.nsf/pages/landuse-water-supply-catchments">http://vro.agriculture.vic.gov.au/dpi/vro/vrosite.nsf/pages/landuse-water-supply-catchments</a>	List of declared water catchment areas for Victoria
	<a href="#">Western Australia</a> Department of Water – Geographical Data Atlas <a href="http://www.water.wa.gov.au/maps-and-data">http://www.water.wa.gov.au/maps-and-data</a> <a href="http://www.water.wa.gov.au/maps-and-data/maps/water-register">http://www.water.wa.gov.au/maps-and-data/maps/water-register</a>	<ul style="list-style-type: none"> <li>• groundwater</li> <li>• irrigation districts</li> <li>• public drinking water sources</li> </ul>
	<a href="#">South Australia</a> Department of Environment and Natural Resources <a href="http://www.environment.sa.gov.au">www.environment.sa.gov.au</a>	Stakeholder consultation
Ecosystem types	WWF Priority Places <a href="http://wwf.panda.org/what_we_do/where_we_work/">http://wwf.panda.org/what_we_do/where_we_work/</a>	Ecoregions with exceptional levels of biodiversity, such as high species richness or

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		endemism, or those with unusual ecological or evolutionary phenomena.
	<p>Conservation International Hotspots Biodiversity Hotspots  <a href="http://www.conservation.org/How/Pages/Hotspots.aspx">http://www.conservation.org/How/Pages/Hotspots.aspx</a></p>	<ul style="list-style-type: none"> <li>• Areas supporting natural ecosystems that are largely intact and where native species and communities associated with these ecosystems are well represented.</li> <li>• Areas with a high diversity of locally endemic species, which are species that are not found or are rarely found outside the hotspot.</li> </ul>
	<p><u>National</u>          Protected Matters Search Tool  <a href="http://www.environment.gov.au/erindex/ert/index.html">http://www.environment.gov.au/erindex/ert/index.html</a></p>	<p>A reporting tool that provides regional information including:</p> <ul style="list-style-type: none"> <li>• Ecological communities and critical habitat under the EPBC Act</li> <li>• Threatened ecological communities</li> </ul>
	<p><u>Victorian ecosystems</u>  <a href="http://www.viridans.com/ECOVEG/">http://www.viridans.com/ECOVEG/</a>  <a href="http://www.depi.vic.gov.au/environment-and-wildlife/biodiversity/evc-benchmarks">http://www.depi.vic.gov.au/environment-and-wildlife/biodiversity/evc-benchmarks</a></p>	Ecosystem types of Victoria
Habitat of migratory species listed under the Commonwealth's Environment Protection and Biodiversity Protection Act 1999	<p><u>All states</u>          Species Profile and Threats Database (SPRAT) - Department of Sustainability, Environment, Water, Population and Communities (DSEWPC)  <a href="http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl">http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl</a></p>	Provides a list of migratory species under the EPBC Act
	<p><u>Western Australia</u>          Department of Biodiversity, Conservation and Attractions  <a href="https://www.dpaw.wa.gov.au/">https://www.dpaw.wa.gov.au/</a></p>	Stakeholder consultation
	<p><u>Victoria</u>          Department of Environment, Land, Water and Planning  <a href="https://www2.delwp.vic.gov.au/">https://www2.delwp.vic.gov.au/</a></p>	Stakeholder consultation
	<p><u>South Australia</u>          Department of Environment and Natural Resources</p>	Stakeholder consultation

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	<a href="http://www.environment.sa.gov.au">www.environment.sa.gov.au</a>	
Intact forest landscapes	Global Forest Watch <a href="https://www.globalforestwatch.org/">https://www.globalforestwatch.org/</a>	Information on world's forests including maps showing location.
	World Research Institute <a href="https://www.wri.org/">https://www.wri.org/</a>	A research institute for the protection of the earth's environment.
Forests critical to erosion control	Western Australia Department of Biodiversity, Conservation and Attractions <a href="https://www.dpaw.wa.gov.au/">https://www.dpaw.wa.gov.au/</a>	Stakeholder consultation
	Victoria Department of Environment, Land, Water and Planning <a href="https://www2.delwp.vic.gov.au/">https://www2.delwp.vic.gov.au/</a>	Stakeholder consultation
	South Australia Department of Environment and Natural Resources <a href="http://www.environment.sa.gov.au">www.environment.sa.gov.au</a>	Stakeholder consultation
Forests providing barriers to destructive fire	Western Australia Department of Biodiversity, Conservation and Attractions <a href="https://www.dpaw.wa.gov.au/">https://www.dpaw.wa.gov.au/</a>	Stakeholder consultation
	Victoria Department of Environment, Land, Water and Planning <a href="https://www2.delwp.vic.gov.au/">https://www2.delwp.vic.gov.au/</a>	Stakeholder consultation
	South Australia Department of Environment and Natural Resources <a href="http://www.environment.sa.gov.au">www.environment.sa.gov.au</a>	Stakeholder consultation
Local people's needs	Socio economic impact assessments Noongar Procurement (WA) Tender/supply	Needs and perceptions of local community
Authorised regional catchment goals	Western Australia Department of Water <a href="http://www.water.wa.gov.au/">www.water.wa.gov.au/</a> South Coast Natural Resource Management <a href="http://www.southcoastnrm.com.au/">www.southcoastnrm.com.au/</a>	Stakeholder consultation

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	<p><u>South Australia</u> Department of Environment, Water and Natural Resources <a href="http://www.environment.sa.gov.au/">www.environment.sa.gov.au/</a></p> <p><u>Victoria</u> Department of Environment, Land, Water and Planning <a href="https://www2.delwp.vic.gov.au/">https://www2.delwp.vic.gov.au/</a></p>	
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INDIGENOUS AND HISTORIC VALUES		
Registered Indigenous and non-Indigenous natural heritage and cultural, religious, spiritual and social heritage sites	<p><u>National</u> Department of the Environment and Energy <a href="http://www.environment.gov.au/heritage/heritage-places">http://www.environment.gov.au/heritage/heritage-places</a> South West Aboriginal Land and Sea Council WA</p>	Heritage places and lists
	Local Government inventories (all states)	<ul style="list-style-type: none"> <li>• provide a cultural and historic record of the local district</li> <li>• determine local government conservation policies</li> <li>• provide information about local heritage that may be required under a town planning scheme for that district</li> </ul>
	<p><u>Victoria</u> <a href="http://www.dpc.vic.gov.au/index.php/aboriginal-affairs/aboriginal-cultural-heritage/victorian-aboriginal-heritage-register">http://www.dpc.vic.gov.au/index.php/aboriginal-affairs/aboriginal-cultural-heritage/victorian-aboriginal-heritage-register</a></p>	Detailed information on cultural heritage places and objects to protect and manage them
	<p><u>South Australia</u> <a href="http://www.statedevelopment.sa.gov.au/aboriginal-affairs/aboriginal-affairs-and-reconciliation/aboriginal-heritage">http://www.statedevelopment.sa.gov.au/aboriginal-affairs/aboriginal-affairs-and-reconciliation/aboriginal-heritage</a></p>	Stakeholder consultation
	<p><u>Western Australia</u> Aboriginal Heritage Enquiry System <a href="http://maps.dia.wa.gov.au/AHIS2/">http://maps.dia.wa.gov.au/AHIS2/</a></p>	Location of registered Aboriginal sites Site survey information

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	<p><u>Heritage websites</u></p> <p>National  <a href="http://www.environment.gov.au/cgi-bin/ahdb/search.pl">http://www.environment.gov.au/cgi-bin/ahdb/search.pl</a></p> <p>WA  <a href="http://stateheritage.wa.gov.au/state-heritage-register">http://stateheritage.wa.gov.au/state-heritage-register</a></p> <p>SA  <a href="http://www.environment.sa.gov.au/our-places/Heritage/SA_Heritage_Register">http://www.environment.sa.gov.au/our-places/Heritage/SA_Heritage_Register</a></p> <p>VIC  <a href="http://vhd.heritage.vic.gov.au/vhd/heritagevic">http://vhd.heritage.vic.gov.au/vhd/heritagevic</a>  <a href="http://www.dpcd.vic.gov.au/heritage">http://www.dpcd.vic.gov.au/heritage</a></p>	<ul style="list-style-type: none"> <li>location and information on listed heritage sites for each state</li> </ul>
Non-registered Indigenous and non-Indigenous natural heritage and cultural, religious, spiritual and social heritage sites	<p>Department of Indigenous Affairs            All states  <a href="http://www.indigenous.gov.au/">http://www.indigenous.gov.au/</a>  <a href="http://www.daa.wa.gov.au/">http://www.daa.wa.gov.au/</a></p>	Stakeholder consultation
Existing legal or traditional uses of forests	<p>Department of Indigenous Affairs            All states</p>	Stakeholder consultation
	Local Indigenous groups	Stakeholder consultation
	Previous landowners	History
Local people's needs	<p>Socio economic impact assessments            Noongar Procurement (WA)            Tender/supply</p>	Needs and perceptions of local community

Appendix 2 - High Conservation Value Criteria and Guidance for Assessment

High Conservation Value (HCV)	
Criteria	Guidance for Assessment
<p><b>HCV 1 –Species diversity.</b> Concentrations of <i>biological diversity</i> including endemic species, and <i>rare, threatened</i> or endangered species, that are <i>significant</i> at global, regional or national levels.</p> <p>Best available information to include where applicable:</p> <ul style="list-style-type: none"> <li>• Recovery plans and related documents</li> <li>• Habitat* mapping</li> <li>• Databases</li> <li>• Peer reviewed journal articles</li> <li>• Reports by government bodies and credible institutions, organisations and experts</li> <li>• Expert research and advice (including for high SIR operations, provided by a locally knowledgeable expert independent of the organisation)</li> <li>• Expert and knowledgeable stakeholder data</li> <li>• Field surveys</li> </ul>	
<p><b>HCV1.1 Areas that contain significant concentrations of rare and threatened species or that contain habitat critical to the survival and long term viability of these species</b></p>	<p>Does the MU contain (or likely to contain) several species listed as rare, threatened or endangered in accordance with International Union for Conservation of Nature (IUCN), under the EBPC Act or regional legislation and/or other requirements?</p> <p><b>YES = HCV</b></p>
	<p>Does the property contain habitat critical* to the survival and long term viability of these species?</p> <p><b>YES = HCV</b></p>
<p><b>HCV1.2 T Areas that contain centres of endemism</b></p>	<p>Are there several endemic species that are likely to occur within the MU area?</p> <p><b>YES = HCV</b></p>
<p><b>HCV1.3 Areas that contain significant concentrations or rare species that are poorly reserved at the IBRA region scale</b></p>	<p>Does the MU have specific areas where there are a significant number of multiple species or where is a proportionately large population of an individual species?</p> <p><b>YES = HCV</b></p>
<p><b>HCV1.4 Areas with mapped seasonal concentrations* of species</b></p>	<p>Does the MU have areas important to the lifecycle or migration paths of migratory and communal breeding species?</p> <p><b>YES = HCV</b></p>
<p><b>HCV1.5 Areas of high species/communities diversity</b></p>	<p>Does the MU contain areas where there is a high diversity of species and communities?</p> <p>YES = HCV</p>
<p><b>HCV1.6 Refugia</b></p>	<p>Does the MU have an isolated area where extensive changes, typically due to changing climate or disturbances such as those caused by humans, have not occurred and where plants and animals typical of a region may survive?</p> <p><b>YES = HCV</b></p>

**HCV 2 –Landscape-level *ecosystems* and mosaics.** Intact forest *landscapes* and large *landscape*-level *ecosystems* and *ecosystem* mosaics that are *significant* at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.

Best available information to use where applicable:

- Mapping and other data on forest cover, age, succession, structure, species composition, habitat\* connectivity, anthropogenic disturbance, roadless areas, wilderness, and intact forests
- Peer reviewed journals, government or expert reports and data identifying significant landscape\*-level forests
- For Intact Forest Landscapes\*, mapping and data from Global Forest Watch and World Resource Institute.

**HCV2.1**  
**Landscape-level\* native forests\* with successional stages, forest structures, and species composition that are similar in distribution and abundance to native forests\* that have experienced minimal human disturbance, excluding traditional Indigenous\* management regimes.**

Does the MU contain areas:

- In close proximity to each other;
- Thousands or tens of thousands of hectares in size;
- Have similar successional stages, structure, species composition;
- Similar in distribution and abundance to native forests; and
- Have experienced minimal human disturbance

**YES = HCV**

**HCV2.2 Forests recognised as being regionally significant at the bioregion or larger scale in formally recognised reports or peer-reviewed journals, due to the unusual landscape\*-scale\* biodiversity values provided by size and condition of the forest relative to regional forest land cover and land use trends.**

Does the MU contain forests that are thousands or tens of thousands of hectares in size which are formally recognised reports or peer reviewed journals, due to the unusual landscape scale biodiversity values provided by size and condition of the forest relative to regional forest land cover and land use trends?

**YES = HCV**

**HCV2.3 Forests that provide regionally significant habitat\* connectivity\* between larger forest areas and/or refugia\*.**

Does the MU contain areas of forest that are thousands of tens of thousands in size which provide significant habitat connectivity between larger forest areas and/or refugia?

**YES = HCV**

**HCV2.4 Intact Forest Landscapes\*, wilderness areas, forests that are roadless, and/or have not been affected by forest management activity.**

Does the MU contain areas of intact forest landscapes\*, wilderness areas, forests that are roadless and/or have not been affected by forest management activity

**YES = HCV**

**HCV 3 –Ecosystems and habitats.** Rare, threatened, or endangered *ecosystems, habitats* or *refugia*.

Best available information to use where applicable:

- Ecosystem\* protection\* and conservation status at IBRA\* scales
- Old-growth forest\*
- Forest cover and disturbance
- Forest maturity

<ul style="list-style-type: none"> <li>Anthropogenic disturbance at the landscape scale.</li> </ul>	
<p><b>HCV3.1 Ecosystems* (including rainforests) that are threatened, depleted or poorly reserved at the IBRA* bioregion scale, or are subject to threatening processes predicted to substantially reduce their extent and function.</b></p>	<p><b>Does the MU...</b></p> <p>Contain particular ecosystems that are threatened, depleted or poorly reserved at the IBRA bioregion scale or subject to threatening processes predicted to substantially reduce their extent and function?</p> <p><b>YES = HCV</b></p>
<p><b>HCV3.2 Areas for conservation* of important genes or genetically distinct populations.</b></p>	<p>Does the MU contain areas for conservation of important genes or genetically distinct populations</p> <p><b>YES= HCV</b></p>
<p><b>HCV3.3 Old-growth forest*.</b></p>	<p>Does the MU contain old growth forest?</p> <p><b>YES = HCV</b></p>
<p><b>HCV3.4 Remnant vegetation in heavily cleared landscapes and mature forest in degraded landscapes.</b></p>	<p>Does the MU have remnant vegetation in heavily cleared landscapes and mature forest in degraded landscapes*?</p> <p><b>YES = HCV</b></p>
<p><b>HCV 4 –Critical ecosystem services.</b> Basic <i>ecosystem services</i> in <i>critical</i> situations, including <i>protection</i> of water catchments and control of erosion of vulnerable soils and slopes.</p> <p>Best available information to use where applicable:</p> <ul style="list-style-type: none"> <li>Flood risk</li> <li>Soil erodibility and erosion risk</li> <li>Fire risk and behaviour in the landscape</li> <li>Water catchment location and water quality.</li> </ul>	
<p><b>HCV4.1 Areas that provide protection* from flooding.</b></p>	<p>Does the MU contain areas that provide protection from flooding?</p> <p><b>YES = HCV</b></p>
<p><b>HCV4.2 Areas that provide protection* from erosion.</b></p>	<p>Does the MU fall within an existing erosion protection prioritisation scheme or critical erosion area? (Critical erosion areas would include where there is a risk of serious erosion, landslides and avalanches.)</p> <p>If YES, does the MU play a critical role in protecting against erosion? (The MU will <b>NOT</b> play a critical role if the MU only contains a small area of vulnerable soils or the topographic situation of the MU protects against severe erosion).</p> <p><b>IF YES = HCV</b></p>
<p><b>HCV4.3 Areas that provide barriers to the spread of destructive fires</b></p>	<p>Is the MU within a high risk fire area?</p> <p><b>If yes</b> does the FMU....</p> <p>Contain forest types that naturally act as a barrier to fire?</p> <p><b>YES=HCV</b></p> <p>Contain areas covered by forest types too small to act as barriers against uncontrolled destructive fire? YES. <b>DOES NOT = HVC</b></p> <p>Contain human settlements or communities within or adjacent to the MU? <b>YES=HCV</b></p>

<p><b>HCV4.4 Areas that provide clean water catchments.</b></p>	<p>Does the MU... Fall within identified critical catchment or watershed areas? If YES, does the MU play a critical role in protecting the catchment area? (The FMU will play a critical role if the catchment area is not largely forested or the FMU covers a large proportion of the catchment) IF YES = HCV</p>
<p><b>HCV 5 –Community needs.</b> Sites and resources fundamental for satisfying the basic necessities of <i>local communities</i> or <i>Indigenous Peoples</i> (for livelihoods, health, nutrition, water, etc.), identified through <i>engagement</i> with these communities or <i>Indigenous Peoples</i>. Best available information to use where applicable: Mapping, reports, expert and stakeholder* consultation and other data on unique and primary sources of water for daily uses and the location of areas that provide traditional food and medicines.</p>	
<p><b>HCV5.1 Unique/main sources of water fundamental* for drinking and other daily uses.</b></p>	<p>Does the MU contain unique and/or main sources of water fundamental for drinking and other daily uses? YES = HCV</p>
<p><b>HCV5.2 Unique/main sources of water fundamental* for the irrigation of subsistence food crops.</b></p>	<p>Does the MU contain unique and/or main sources of water fundamental for the irrigation of subsistence food crops? YES = HCV</p>
<p><b>HCV5.3 Food and medicines fundamental* for local traditional Indigenous* uses.</b></p>	<p>Does the MU contain food and medicines fundamental for local traditional Indigenous uses? YES = HCV</p>
<p><b>HCV 6 –Cultural values.</b> Sites, resources, <i>habitats</i> and <i>landscapes</i> of global or national cultural, archaeological or historical significance, and/or of <i>critical</i> cultural, ecological, economic or religious/sacred importance for the traditional cultures of <i>local communities</i> or <i>Indigenous Peoples</i>, identified through <i>engagement</i> with these <i>local communities</i> or <i>Indigenous Peoples</i>. Best available information to use where applicable:</p> <ul style="list-style-type: none"> <li>• Mapping</li> <li>• Reports</li> <li>• Databases</li> <li>• Field surveys</li> <li>• Expert and knowledgeable stakeholder* consultation.</li> </ul>	
<p><b>HCV6.1 Aesthetic values.</b></p>	<p>Does the MU contain areas that have aesthetic value? YES = HCV</p>
<p><b>HCV6.2 Historic values of global or national cultural or archaeological significance.</b></p>	<p>Does the MU contain sites that have historic values of global or national, cultural or archaeological significance? YES = HCV</p>
<p><b>HCV6.3 Long term research sites.</b></p>	<p>Does the MU contain sites that are used for long term research? YES = HCV</p>
<p><b>HCV6.4 Social (including economic) values.</b></p>	<p>Does the MU contain area of social and economic value? YES = HCV</p>
<p><b>HCV6.5 Spiritual and cultural values.</b></p>	<p>Does the MU contain areas of spiritual and cultural value? YES = HCV</p>

Appendix 3 – Framework for Hygiene Management Planning

