



Forestry Tasmania

Management Decision Classification: For zoning in State forest management areas User Manual

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Preface

This manual is a technical manual to guide Forestry Tasmania planners involved in the application and use of MDC Zoning. It can also be made available to the wider community to assist in promoting a general understanding of the MDC system and to facilitate public comment regarding MDC zoning decisions.

The Manual is kept up to date as procedures evolve and users should ensure they are using the latest version by checking on-line on the Forest Management System maintained by Forestry Tasmania.

This manual was reviewed in 2010, and the following changes to the MDC system were made

- Delegation of update responsibilities to districts for MDC changes less than 1 ha
- Clarified the use of Interim Protection Zone
- Review of SMZ codes, uses and prescriptions, including deleting obsolete and addition of new SMZ codes (including a Trees on Farms SMZ, FaTof)
- Explicit instruction on the use of specific SMZs for consistent statewide use and stewardship reporting requirements
- Hyperlink to the internet and FTs EMS intranet for access to the primary source documents that should be used to help develop management prescriptions for SMZs
- Clarified the MDC changes approval process
- Updated MDC standard forms
- Updated reference list
- Initiation of a district annual audit of changes < 1ha
- Initiation of a 5-yearly MDC review process

Any queries regarding this manual or the MDC system can be directed to

The Manager, Planning Branch

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Introduction

What is MDC Zoning

The Management Decision Classification (MDC) system is the way in which Forestry Tasmania zones the land it manages to express its legal status and purpose, facilitate its management and enable its administration and description. This system is particularly useful to assist in balancing the competing demands placed on the forest estate and enables areas with particular values to be identified in order for appropriate management objectives and prescriptions to be put in place to ensure protection, maintenance and enhancement of these values.

MDC zoning is two tiered. In the first tier, all State forest is classified as either a Protection, Interim Protection, or Production Zone, which indicates whether a specific area is managed for wood production or protection. The Protection Zone includes land, from which wood production is excluded to protect special values, in the form of Formal or Informal Reserves. The Interim Protection Zone is a temporary category for areas placed in interim protection under some land management agreement or process. No timber harvesting is permitted in these areas, however they can include couped-up areas, and will be re-allocated to either Protection or Production Zone at some future time. The Production Zone includes native forest and plantation areas available for wood production. However, not all forests in the Production Zone will be harvested.

Special Management Zones (SMZs) form the second tier of the MDC Zoning system. SMZs allow for areas with particular special values or uses to be identified within the MDC system, so that appropriate management objectives and prescriptions can be applied. SMZs are coded in such a way that they reflect the identified special value or use. More than one special value can be indicated over a single area.

MDC is thus a system that records decisions made by forest planners based on the best available information. It is not a database for the information underlying that decision.

A general overview of MDC and the background to its development is available in Forestry Tasmania Sustainability Charter (2008) and Orr, S. and Gerrand, A.M. (1998). Management Decision Classification: A system for zoning land managed by Forestry Tasmania. *Tasforests* Vol 10, pp 1-14.

MDC coverage

MDC zoning is applied to all land that Forestry Tasmania manages, including State forests, joint ventures and leases on private land, and some areas of non allocated crown land.

The purpose of MDC Zoning

MDC seeks to achieve three core requirements of forest management planning:

Systemisation

- The 1997 Tasmanian Regional Forest Agreement (RFA) sets out reservation requirements in the form of Formal and Informal Reserves. MDC incorporates these requirements within the forest planning process.
- Decisions regarding special values identified through the Forest Practices System are recorded in a systematic manner using MDC.
- The MDC system assists in the management of environmental aspects of Forestry Tasmania's certified Forest Management System.
- MDC zones provide preliminary information necessary to delineate provisional harvesting coupes, which underpin sustainable yield calculations and assist with strategic planning tasks.
- MDC is integral to the production and implementation of Forestry Tasmania's Sustainability Charter: Forest Management Plan 2008.

Consistency

- MDC provides a framework for land management decisions and assists in maintaining Statewide consistency of decision making for the land in which Forestry Tasmania is responsible for.
- MDC provides a repository of corporate expertise and knowledge.

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Transparency

- MDC allows the management intent for Forestry Tasmania managed lands to be more readily communicated to the public, and to other stakeholders such as State and Commonwealth agencies and local government.

MDC in context of other planning systems

MDC zoning needs to be viewed in the context of a suite of legislations, policies, standards and datasets that each influence aspects of forest management (see Figure 1).

The **Forestry Act 1920** sets out the broad purposes for which State forest is managed.

The **Forest Practices Act 1985** and **Forest Practices Code** addresses the protection of environmental values, particularly biodiversity, water quality and flow, geomorphology, soils, cultural heritage and visual landscape and specifies minimum standards for forest operations.

The 1997 **Tasmanian Regional Forest Agreement (RFA)** and 2005 **Tasmanian Community Forest Agreement (TCFA)** identify priority forest communities to be protected as they are encountered within production forests. It sets out a range of agreed measures for protecting other forest values. The TCFA, also known as the Supplementary Regional Forest Agreement, designated a large additional area of State forest as Informal Reserve to protect oldgrowth forest. MDC zoning is an integral part of the implementation of the **Forest Practices Code** and the **RFA/TCFA** but also deals with additional broader forest management objectives and hence can place additional constraints on forest operations.

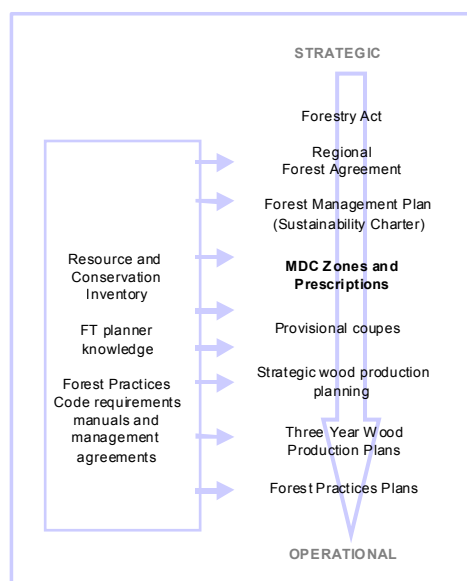
Forestry Tasmania's Sustainability Charter (Forestry Tasmania, 2008) is the current **Forest Management Plan** for Tasmania's State forest.

Strategic planning in relation to harvesting in a regional context, ensures, among other objectives, that biodiversity and catchment management objectives are addressed.

A **Three Year Wood Production Plan** is produced each year by Forestry Tasmania. This identifies coupes planned for harvest in the coming three years and sets out how they would be harvested and regenerated.

Forest Practices Plans are prepared prior to harvesting operations. These set out prescriptions that are required by the **Forest Practices Code**. The MDC system can only include information on known values, and so the absence of a recorded special value is not necessarily evidence that it is not present. Pre-harvest coupe surveys and special values assessments regularly identify additional special values, which lead to updating the MDC zones.

Figure 1. MDC in context of other planning systems



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The history of MDC Zoning

The MDC system was developed in 1990-91. The first MDC manual was released in 1991 and dealt with the compiling of initial statewide MDC mapping and with protocols to assist in digitising the boundaries. By mid 1993, all land that Forestry Tasmania managed had been zoned. An updated manual was released in 1996 with a similar emphasis to the first version. By 1997, there was growing recognition that the structure of the MDC system was limited in not having the capacity to store background information to zoning decisions. This corporate knowledge was becoming at risk of being lost or over-looked, as the planner responsible for a particular zoning decision moved on or simply could no longer recall the basis for decisions in years past.

The *Tasmanian Regional Forest Agreement*, signed in 1997 also sets out requirements in relation to the content and documentation of MDC. In 2001 a third updated version of the manual was released. In 2008, an upgrade to the functionality of MDC was built, [MDC Attribute Editor](#), to allow electronic annotations or 'notes' to record the reasons behind zoning decisions. The number of special management zones has also markedly increased from 22 to over 100. Also during this time, the Conditional Zone primary zone was removed and areas that were in this zone were reviewed and most were reallocated into either the Protection or Production primary zone. Some areas still in review which cannot yet be reallocated have been placed in a newly created Interim Protection Zone. This 2011 manual is the fourth edition and incorporates detailed explanations of the Interim Protection primary zone, review of SMZ codes, and more explicit descriptions and instruction on the use of SMZ codes.

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MDC Structure

The MDC system identifies two levels of zoning. At the first level, land is allocated to a single Primary Zone that defines whether the land will primarily be managed for Protection, Interim Protection or Production. At the second level, Special Management Zones (SMZ) overlies Primary Zones to indicate where particular emphasis will be placed on management for special values. More than one special value can be indicated over a single area.

Primary Zones

Protection Zone (PTF, PTI)

The Protection Zone includes land from which wood production is excluded to protect special values. It includes areas of forest and non-forest where maintenance of identified special values is incompatible with wood production. The inclusion of land in the Protection Zone does not preclude the removal of small quantities of timber under special circumstances, such as approved research or salvage operations, provided this can be done without significantly affecting the special values being protected. Salvage may include, for example, the removal of trees felled during the construction of roads or visitor facilities but does not include the harvesting of trees following wildfires. Inclusion in this Zone does not in itself preclude mineral exploration and mining.

Land in the Protection Zone includes areas in Formal Protection (PTF) and Informal Protection (PTI). Formal Protection includes almost all Forest Reserves (the exceptions being plantation forests within Oldina, Hollybank, Springfield and Dalgarth Forest Reserves) and other areas with special values which are incompatible with wood production. Informal Protection areas include the Informal Reserves, such as wildlife habitat strips, wedge-tailed eagle reserves, threatened flora reserves and landscape reserves.

Areas may only be removed from Informal Reserves under specific and limited conditions (see page 12).

Areas within the Protection Zone should have the appropriate SMZ code(s) ascribed to them to assist in identifying why the area is being protected.

Interim Protection Zone (INT)

The Interim Protection Zone (INT) is a temporary category for areas placed in temporary protection under some land management agreement or process, such as Species Management Plans listed under FT's Public Authority Management Agreement with DPIPW. This includes areas where the decision to put an area into protection is pending a decision external to FT. No timber harvesting is permitted in these areas, however they can include coupes-up areas. These areas will be re-allocated to either Protection or Production Zone at some future time. Areas in this zone may have historically been referred to as Conditional Zone, which was a Primary Zone category that has now been abolished.

For other areas that require some temporary form of exclusion from harvesting due to the presence of special values, these should be coded using an exclude code within FT's Provcoupe system, with a corresponding SMZ code in the MDC system. These, for example, can include areas identified during the forest practices planning process where the boundaries for the management of that special value have not been well-defined or a decision cannot be made until further work is done. Areas may only be removed from Interim Protection under specific and limited conditions (see page 13).

Production Zone (PRD)

The Production Zone (PRD) includes areas available for wood production. It includes areas within planned future coupes, as well as areas that may be unsuitable for wood production but do not have specific conservation values warranting zoning within the Protection Zone. Such areas would be coded with an exclude code under FT's Provcoupe system. For example, this can include designated wildlife habitat clumps, stream side reserves, or rainforest.

The Forest Practices Code may constrain or exclude harvesting operations from some areas. Such areas may be ascribed one or more SMZs to indicate the presence of a particular special value. Any decision made on how to maintain and protect that value is documented in the Forest Practices Plan, should also be documented in the SMZ comments field, if deemed necessary, using the [MDC Attribute Editor](#).

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Special Management Zones

SMZ Codes

Special Management Zones (SMZs) form the second tier of the MDC system. SMZs allow for areas with particular special values or uses to be identified within the MDC system, so that appropriate management objectives and prescriptions can be applied. SMZs are coded in such a way that they reflect the identified special value or use.

SMZs cover 15 different groups of special values or uses (Table 1). Each group may include more than one very specific SMZ code, depending on the diversity of special values within that group. For example there are now 29 separate fauna codes, which indicate the particular fauna value for a zone, usually habitat for a threatened species (eg. FaSb designates a wildlife priority area for the threatened Simons stag beetle). A total of 101 SMZs are currently in use, and a description and instruction on the use of these SMZ codes is listed in Appendix 1 (page 15).

Table 1. SMZ groups

Group code	Special values Group	Special Management Zone Group - brief description
Ag	Agricultural	Land on which the grazing of domestic stock or other agricultural cropping is a priority for management.
Ap	Apiary	Areas identified to have high value for nectar production and selected to be managed for maintenance of the nectar supply.
Cu	Cultural heritage	Aboriginal and historic sites that require recognition and management.
Fa	Fauna	Areas for which the management of fauna values is of particular importance.
Fl	Flora	Areas for which the management of flora or vegetation community values is of particular importance.
Fu	Fuel reduction	Land managed primarily for strategic fire management purposes.
Ge	Geconservation	Landform features of significance that require protection or management.
He	Health	Land requiring special management due to either the known presence of particular pests, weeds or diseases or the presence of flora values considered particularly susceptible to these impacts.
HZ	Hazard	Land that poses a specific geomorphic hazard such as a high level of susceptibility to landslip, soil erosion, cave-ins, flood or accentuated drought stress and on which the priority for management is to manage for such possible events.
Ls	Landscape	Land for which detailed landscape planning may be required in recognition of identified landscape values
Rc	Recreation	Land for which recreation or education activities are identified or planned as a priority use.
Rs	Research	Research trials or projects (excluding routine forest inventory plots) for which the Primary Zone in which they are located does not routinely provide the management they require.
St	Special timbers	Areas where a decision has been made to manage for high quality timber production from these special species timbers.
Ut	Utilities	Land set aside as easements for utilities or quarries.
Wa	Water	Areas for which measures are implemented to protect a stream, water storage or water intake or supply facilities, additional to those of the <i>Forest Practices Code</i> .

SMZ structure

The MDC system has the capacity to store 6 different SMZs over a single area, SMZ1, SMZ2, SMZ3, SMZ4, SMZ5, SMZ6. Their order should be based on their relative management significance. For example, a value, such as the Grassy globulus RFA priority community (FIGg), that requires total harvest exclusion, should be classed as SMZ1 relative to another value, such as FaSp, which requires management prescriptions for retaining foraging habitat amongst forest that is harvested, and so is classed as SMZ2.

For some specific SMZ codes, there is an interaction between the MDC system and Provcoupe system, particularly with regards to the use of provcoupe exclude codes. For these SMZs, a description of this interaction is provided in Appendix 2 **Instruction and use of specific SMZ codes**

including instructions on the relevant 'notes' to add in the SMZ comments field.

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Determination of Zones

Zone boundaries

General principles to be considered in identifying MDC zones and delineating sensible operational boundaries are listed in Appendix 5 (page 34). Given the diversity of situations encountered when undertaking zoning, it is not possible to be totally prescriptive with a method for deriving MDC zones; subjective judgments may be required. The following method seeks to make this process as systematic, consistent and transparent as possible.

Method of determining MDC zoning

1. With the exception four Forest Reserves comprising plantation forests, (page 6), Forest Reserves must be in the Protection Zone.
2. The *Regional Forest Agreement* identified additional areas requiring reservation that (usually because they are too small or dispersed to be included in formal gazetted reserves) are included in Informal Reserves. These are included in the Protection Zone.
3. Where RFA priority or other threatened forest communities (Appendix 4), are identified and accurately mapped within the Production or Interim Protection Zone, there is a *RFA* requirement that, wherever prudent and feasible, they be protected. This is normally achieved by their inclusion in the Protection Zone.
4. The *RFA* also allows for areas outside Formal Reserves to be removed from the Protection Zone under specific, limited conditions and subject to a formal assessment and approval process (page 12).
5. Special Management Zones are identified in accordance with the descriptions and guidelines in Appendix 1.
6. Additional areas of Protection Zone will be established in situations where the protection of identified special values is inconsistent with wood production. All areas of Informal Reserve should have an SMZ documenting the reason(s) for their existence.
7. Wildlife habitat strips are located in accordance with Taylor (1991) and included within the Protection Zone. The location of wildlife habitat strips may be amended subject to a formal assessment and approval process (page 12).
8. Approvals for MDC changes are required in accordance with the process described on page 12. Approvals should be sought prior to editing the corporate digital dataset.
9. Approved changes are digitised and checked for errors.

Editing and viewing of MDC spatial layer

The MDC spatial layer is stored in Hobart as an Oracle table and is accessible Statewide. Only specific accredited District staff have write access. Editing is carried out using MapInfo, which “checks out” portions of the table for editing and performs certain data integrity checks before inserting the data back into the corporate database. Viewing MDC is commonly done through the IntraGIS spatial viewing system and pre-defined map products available via the MapComposer system.

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Annotations and Prescriptions

Annotations for Special Management Zones

The presence of a SMZ code can provide a general or more specific sense of the value and management actions required. For most historical SMZs, information on why it was created and how it is to be managed was recorded by attaching descriptive paper notes to copies of District 'master' MDC map-sheets. This information has largely been transferred into electronic annotation, however, there will be some historical SMZs which lack this information.

The [MDC Attribute Editor](#), running in MapInfo, provides functionality allowing annotations or 'notes' to be recorded against SMZs. These annotations can include references to files, explanatory notes and other comments that contribute to the transparency of the system. Prescriptions relating to individual SMZs can also be stored in this way.

For some specific SMZ codes, there is an interaction between the MDC system and Provcoupe system, particularly with regards to the use of provcoupe exclude codes. For these SMZs, specific instruction is provided in Appendix 2 (page 29).

Prescriptions for Special Management Zones

An SMZ will indicate the presence or likelihood of a known value, and it should also indicate the associated management objectives and prescriptions required to protect and maintain that value. The management prescriptions may be generic, or they may be very local and value specific, as specified from the primary source documents (see Appendix 1, page 15) or from the comments field associated with the SMZ polygon. For further information regarding the management of specific SMZs, contact Planning Branch.

Applying prescriptions from source documents may require some degree of interpretation where:

- compatible or conflicting prescriptions for multiple special values are compounded into a single consistent set of prescriptions;
- a selection is made of prescriptions relevant to a specific situation from a wider list; or
- generic prescriptions are reworded to reflect the characteristics of a specific site.

Specific management strategies will continue to be developed for particular sites through discussions between the Districts, Planning Branch, the Forest Practices Authority, and the Department of Primary Industries, Parks, Water and Environment.

Steps to be taken by District planners in the development of management prescriptions

1. Standard prescription and policy documents will be used in the updating of MDC zoning and in operational planning.
2. If required, the Forest Practices Authority specialists will be notified of special values that are regulated under the Forest Practices System, and contacted for advice.
3. Planning Branch staff or other relevant Forestry Tasmania staff will be contacted where other expert advice is required, or a broader policy decision is needed.
4. Prescriptions developed for specific SMZs that are of ongoing relevance should be recorded electronically, using the [MDC Attribute Editor](#), onto the MDC system.

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Responsibilities, update and approval procedures

Responsibilities and authorities

The broad responsibilities and authorities of the Districts and Planning Branch in relation to the MDC system are set out below.

		Responsibilities
Districts	Operational staff	To ensure that consideration has been given to MDC zoning prior to any operational activities that may impact on special values.
	Planning staff	To incorporate MDC data into District planning processes (eg Provcoupe, FPPs). To identify and implement required changes to MDC zones, including the progression of the approval process. To manage and maintain quality control for the process of entering MDC data into the system. To identify the need for and progress surveys or other research needed in order to make informed decisions regarding the need for new or amended MDC zones.
	District Manager	Overarching responsibility to ensure the correct administration of MDC in the District. To review and sign off on any proposed amendments to MDC Zones.
Planning Branch	Planning staff	To ensure the correct administration and use of MDC Statewide. To progress, with District consultation, required improvements to the MDC system. To process and respond to proposed MDC amendments requiring Manager Planning approval. To monitor the referral of MDC changes to the Forest Practices specialists, if advice is required. To maintain a register of MDC Protection Zone changes for use in the 5-yearly RFA review.
	Manager Planning	To review and sign off on any proposed amendments that involve areas being removed from the Protection or Interim Protection Zone. Overarching responsibility to maintain MDC standards and quality.

Forest Practices Authority and other specialists	Forestry Tasmania should consult with FPA or other specialists, such as Forestry Tasmania's conservation planners in Planning Branch, before making changes to MDC that could have significant implications for special values. That advice should be considered before making a removal of a significant area from the Protection Zone.
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Update procedures

Ongoing amendments

Amendments should be made to the MDC database on a regular basis as new information becomes available.

Annual review of MDC decisions

A broader annual review should also be undertaken in each District, which should also coincide with the annual internal audit of District-delegated MDC changes that are less than 1 ha. Any strategic MDC issues that have arisen over the past year should be considered at this time. It is also an opportunity to resolve any backlog of required changes in preparation for three year planning early in the following year and to review the retention of areas in the Interim Protection Zone. In the case of a District that regularly updates MDC throughout the year, the review may be a nominal task.

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Five-yearly review of MDC processes and standards

The processes and standards described in this Manual should be reviewed every five years by Planning Branch, in consultation with Districts.

The 2010/11 Review has initiated a number of upgrades to the MDC system, including

- Delegation of update responsibilities to districts for MDC changes less than 1 ha (see page **Error! Bookmark not defined.**), with the inclusion of a new Standard Form (Appendix 6b, page 37)
- Clarified the use of Interim Protection Zone (see page 7)
- Review of SMZ codes, uses and prescriptions, including deleting obsolete and addition of new SMZ codes, including a Trees on Farms SMZ (FaTof) (Appendix 1, see page 15)
- Explicit instruction on the use of specific SMZs for consistent statewide use and stewardship reporting requirements (Appendix 2, see page 29)
- Hyperlink to the internet and FTs EMS intranet for access to the primary source documents that should be used to help develop management prescriptions for SMZs
- Clarified the MDC change approval process (Appendix 6c, see page 39)
- Updated MDC standard form (Appendix 6a, page 37)
- Updated reference list (Appendix 7, see page 40)
- Initiation of a district annual audit of changes < 1ha and Initiation of a 5-yearly MDC review process

Approval procedures

Responsibilities for review and approval are listed in the previous section. Documentation (APPENDIX 6 – Standard Form) for amendments to the zoning under the MDC system must identify the specific area(s) concerned, provide a brief explanation for the proposed change and be signed by the District Forester and Manager Planning (or their nominated delegates).

Specific requirements for changes to the Protection Zone

Areas of Protection Zone, outside of Forest Reserves, constitute Informal Reserves on State forest. Any change to Informal Reserves must, in accordance with the RFA, maintain the level of protection within the State of identified values for which the Informal Reserve was established. Any such changes to the Protection Zone, in the form of additions and removals, must be documented (as set out below) for independent review as part of the five yearly reviews of the *Regional Forest Agreement*. In practice, changes to the Informal Reserve in Protection Zone usually relate to re-aligning wildlife habitat strips boundaries and no net loss of protected area.

Table 2. Criteria applied to assess proposed changes to Informal Reserves

	Identified conservation value	Minimum level of protection from changes to informal reserves.
1a	Priority <i>Regional Forest Agreement</i> vegetation communities (oldgrowth and other forest communities), and other threatened forest communities (see Appendix 4, page 31)	No loss from Protection Zone of actual values (mapped values verified as not being present may be removed)
1b	Threatened non-forest communities (see Appendix 4, page 31)	No loss from Protection Zone of actual values (mapped values verified as not being present may be removed)
2a	Threatened flora and fauna known sites	None removed from Protection Zone
2b	Threatened flora and fauna habitat	In accordance with prescriptions in the <i>Forest Practices Code</i> , and threatened species manuals
3	Other CAR values (non priority communities, wilderness, oldgrowth)	Level of protection of identified values not decreased within the IBRA region, and ideally not decreased within the 1:25000 mapsheet.
4	Identified National Estate values.	Changes to be in accordance with Attachment 1 of the <i>Regional Forest Agreement</i>

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Steps required for changes greater than 1 ha¹ impacting on the Protection Zone

1. The District planner is to map and document the proposed changes on the Standard Form (Appendix 6a, pg 37) and identify any impacts on significant conservation values (as above).
2. The relevant FPA or other specialist (e.g. FT conservation planner) should be notified for their advice on significant proposed changes, and their comments or suggestions taken into consideration. This should be documented.
3. Proposed changes are to be reviewed and approved by the District Forest Manager.
4. The proposed changes and associated documentation are to be forwarded to the Planning Branch. The Conservation Resource Analyst will then check the proposed change against the above criteria.
5. The Manager, Planning Branch, shall provide a memo formally giving approving or rejecting the change. A reason shall be provided should the proposed change be amended or rejected.
6. As a courtesy, the District should notify the Forest Practices specialist if the outcome is different to their recommendation.
7. A copy of the changes should be documented in both the District filing system and in the Head Office file F61730 using Standard Form (Appendix 6a, page 37).
8. Planning Branch will record the changes in a register of MDC Protection Zone amendments for use in each 5 yearly RFA review.

¹ Approval from the Manager, Planning Branch is not required for MDC changes less than 1 ha per standard A4 or A3 Planning Map. Contact Planning Branch if there are a number of such changes sought for a single 1:25,000 map sheet or the proposed changes are of a sensitive nature, eg adjoining formal reserves or likely to contain localised threatened species or communities or other special values.

Steps required for changes less than 1 ha¹ impacting on the Protection Zone²

1. The District planner is to map and document the proposed changes on the Standard Form² (Appendix 6b, pg 37) and identify any impacts on significant conservation values (as above).
2. Proposed changes are to be reviewed and approved by the District Forest Manager.
3. A copy of the changes should be documented in the District filing systems
4. Planning Branch will annually audit changes less than 1 ha and record audit results on file F61730.

² For MDC changes less than 1ha, approval from the District Forest Manager and a Standard Form is not required for mapping errors, as determined by on-ground or Lidar-based assessment. This may include inaccurate stream locations, pi-type, tasveg, or tenure mapping errors.

See Appendix 6c, page 39 for flow chart of the MDC changes approval process

Specific requirements for changes to the Interim Protection Zone

Interim Protection includes areas placed in temporary protection under some land management agreement or process, such as Species Management Plans listed under FT's Public Authority Management Agreement with DPIPWE. Any changes to the Interim Protection Zone, in the form of additions and removals, require a case-by-case consultation and approval from Planning Branch and the relevant external agency, such as DPIPWE or FPA

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Data formats and products

MDC data

MDC data is stored in three main formats:

- **Oracle spatial table**
This is the source MDC data, available for editing by specific approved staff within respective Districts and available for viewing by other staff.
- **District map libraries**
Districts retain paper sets of 1:25,000 MDC maps for reference purposes if deemed useful. Annotations have been frequently made on individual map-sheets or recorded on sheets attached to these maps, but are now recorded electronically using the [MDC Attribute Editor](#).
- **District and head office files**
Information relevant to MDC decisions is recorded on District and Head Office files. Relevant Head office files are F58945 (general MDC administrative file) and F61730 (documentation of changes to Protection Zones and associated approvals).

Standard MDC products

Forestry Tasmania can make MDC information available for public comment and consultation, subject to the safeguarding of sensitive values such as Aboriginal heritage sites and threatened fauna species. Forestry Tasmania will normally seek to recover the direct costs involved in providing that information and may charge commercial rates for information used for commercial purposes. External parties, including consulting Forest Practices Officers, are able to access MDC information using External Mapcomposer. Any provision of source digital data will be subject to a data exchange agreement specifying how the data may be used. Forestry Tasmania will seek to ensure that out of date copies of digital or hard copy MDC data do not remain in circulation.

Routine access and viewing of MDC data is available through the IntraGIS system. Specific map products are also available through Mapcomposer, which can generate Forest Practices Plan maps and other standard maps (including those listed in Table 3).

Table 3. Standard mapping products and their availability.

<i>Standard Map Products</i>	<i>Availability</i>
Statewide maps showing Primary Zones and simplified SMZ zones (1:500,000)	Available as digital images. Posters available at moderate cost
District maps showing Primary Zones and simplified SMZ zones (1:100,000-1:200,000 scale)	Available for viewing in District offices. Available as digital images. Posters available at moderate cost
Standard MDC maps 1:25,000	Available for viewing in District offices Available to the Forest Practices Authority
Detailed A4 plots of specific study areas (1:10,000 scale)	Available for purchase at moderate cost
Historical comparison of MDC Primary Zones as at the start of the RFA, compared with Informal Reserves as subsequently updated.	Available for viewing when generated as part of each five-yearly review of the RFA
Other map requests	Evaluated on a case by case basis
<i>Digital Products</i>	<i>Availability</i>
Digital data for a specific study area (nominally < 20 000 ha)	Available for purchase at moderate cost by customers with a demonstrated legitimate need for the data. Subject to data exchange agreement
Digital data for State or District including Primary and Secondary Zones	Available to Government agencies. Data exchange agreement usually makes provision for regular update (monthly, three monthly, annual)
Other data requests	Evaluated on a case by case basis

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Appendices

Appendix 1 Description of SMZ Codes (Lookup table). [Use Ctrl+Click to follow the hyperlinks](#)

SMZ Codes	SMZ Label	Classification criteria	Management objectives/actions	Primary source documents for prescriptions
Ag	Agricultural	Boundaries correspond to those of grazing or other agricultural cropping leases.	Monitoring of grazing/cropping impacts (e.g. spread of weeds) and action to prevent or ameliorate these where required.	Management prescription required for related Lease/Licences in SF. Land Property Database (GIS Layer).
Ap	Apiary	Areas for which the production of honey is of particular significance (especially M- rainforest containing leatherwood). These SMZs should be identified in consultation with the Tasmanian Beekeepers Association	Exclusion of leatherwood stands from harvesting and their protection from fire. Consultation with apiarists regarding management issues.	Guidelines for Beekeeping on State forest , Tasmanian Beekeepers' Association Community Forest Agreement-Beekeepers
Cu	Historical / Aboriginal	Not to be used. Previous Cu codes should be transferred to a more specialised Cu_ code.		
CuA	Aboriginal cultural values	Delineates Aboriginal sites or areas that require specific management or protection. Boundaries to be established through consultation with the Forest Practices Authority.	Protection of cultural sites from detrimental disturbance from forest operations and other State forest activities. The protection of which should also be considered during fire-management activities. Consultation with Forest Practices Authority or relevant community groups, or Aboriginal Heritage Tasmania regarding management issues. Proactive management where required to protect values.	McConnell (1991). Forest archaeology manual. McConnell (1995). Archaeological potential zoning: Part 1-3. (GIS Layer). Specific site references, Forest Practices Code 2000 , Aboriginal Relics Act 1975 , FT State forest Activity Assessment Guidelines
CuH	Historical cultural values	Delineates cultural sites or areas that warrant specific management or protection. Boundaries to be established through consultation with the Forest Practices Authority and relevant community groups.	Protection of cultural sites from detrimental disturbance from forest operations, other State forest activities. The protection of which should also be considered during fire-management activities. Consultation with Forest Practices Authority, or relevant community groups regarding management issues. Proactive management where required to protect values.	McConnell (1990). Forest archaeology manual. McConnell (1995). Archaeological potential zoning: Part 1-3. (GIS Layer) Specific site references, Forest Practices Code 2000 , Historic Cultural Heritage Act 1995 , FT State forest Activity Assessment Guidelines .

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CuMa	Cultural values - Management Agreement	Identified cultural sites or areas requiring specific management through a formal agreement (eg community forest agreement). Amendment requires formal approval.	Protection of cultural sites from detrimental disturbance from forest operations and other State forest activities. The protection of which should also be considered during fire-management activities. Specific actions identified in management agreement. Consultation with relevant parties regarding management issues. Proactive management where required to protect values.	Specific management agreements, community forest agreements.
CuT	Cultural values - traditional use	Delineates cultural sites or areas significant for traditional uses, social or aesthetic values that require specific management or protection. Boundaries to be established through consultation with the Forest Practices Authority and relevant community groups.	Protection of cultural sites from detrimental disturbance from forest operations and other State forest activities. The protection of which should also be considered during fire-management activities. Consultation with traditional users regarding management issues. Proactive management where required to protect values.	Specific site references
Fa	Threatened/rare fauna	Boundaries to be established in accordance with: (i) Threatened Species Recovery Plans (ii) Threatened Fauna Adviser (Forest Practices Authority) (iii) Species Management Plans endorsed by Forestry Tasmania (iv) standards as set out in other agreed reference documents. (v) outcomes of discussions with Forest Practices specialists.	Not to be used. Previous Fa codes should be transferred to a more specialised Fa_ code.	
Fa40	Forty-spotted pardalote	Area identified as requiring specific management for Forty-spotted pardalote	Management in accordance with established guidelines for Forty-spotted pardalote	Threatened fauna adviser, Fauna Value Database , Forty-spotted Pardalote Recovery Plan , Trees on Farms , species specific references, management agreements.
FaBsb	Broad-toothed stag beetle	Area identified as requiring specific management for Broad-toothed stag beetle	Management in accordance with established guidelines for Broad-toothed stag beetle	Threatened fauna adviser, Fauna Value Database , species specific references, management agreements, The Fauna Technical Note 4
FaBvw	Blind velvet worm	Area identified as requiring specific management for Blind velvet worm	Management in accordance with established guidelines for Blind velvet worm	Threatened fauna adviser, Fauna Value Database , species specific references, management agreements. Commonwealth Conservation Advice on <i>Tasmanipatus anophthalmus</i>
FaBzb	Bornemisszas stag beetle	Area identified as requiring specific management for Bornemisszas stag beetle	Management in accordance with established guidelines for Bornemisszas stag beetle, specifically no forestry operations within this area.	Threatened Fauna Adviser, Fauna Value Database , species specific references, strategic plans, management agreements.
FaCaG	Caddisflies, Australian grayling	Area identified as requiring specific management for Caddisflies, Australian grayling	Management in accordance with established guidelines for Caddisflies, Australian grayling	Threatened fauna adviser, Fauna Value Database , species specific references, management agreements.

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FaDcf	Denison crayfish	Area identified as requiring specific management for Denison crayfish	Management in accordance with established guidelines for Denison crayfish	Threatened fauna advisor, Fauna Value Database , species specific references, strategic plans, management agreements.
FaGfc	Giant freshwater crayfish	Area identified as requiring specific management for Giant freshwater crayfish	Management in accordance with established guidelines for Giant freshwater crayfish	Threatened fauna advisor, Fauna Value Database , species specific references, management agreements. Giant Freshwater crayfish Recovery Plan
FaGg	Grey goshawk	Area identified as requiring specific management for Grey goshawk	Management in accordance with established guidelines for Grey goshawk	Threatened fauna advisor, Fauna Value Database , species specific references, management agreements. The Fauna Technical Note 12:
FaGvw	Giant velvet worm	Area identified as requiring specific management for Giant velvet worm	Management in accordance with established guidelines for Giant velvet worm	Threatened fauna advisor, Fauna Value Database , species specific references, management agreements.
FaGxs	Galaxias fish species	Area identified as requiring specific management for Galaxias fish species	Management in accordance with established guidelines for Galaxias fish species	Threatened fauna advisor, Fauna Value Database , species specific references, management agreements. Tasmanian Galaxid Recovery Plan
FaHs	Hydrobiid snails	Area identified as requiring specific management for Hydrobiid snails	Management in accordance with established guidelines for Hydrobiid snails	Threatened fauna advisor, Fauna Value Database , species specific references, management agreements.
FaKes	Keeled snail	Area identified as requiring specific management for Keeled snail	Management in accordance with established guidelines for Keeled snail	Strategic Plan for Keeled snail, Threatened fauna advisor, Fauna Value Database , species specific references, The Fauna Technical Note 13
FaMa	Fauna - Management agreement	Identified threatened fauna species habitat requiring specific management through a formal management agreement under the Threatened Species Protection Act 1995. Amendment requires formal approval.	Protection of specific fauna species from detrimental disturbance from forest operations and other planned State forest activities. Specific actions identified in threatened species management agreements/plans. Consultation with FT Conservation Planning and DPIPWE Threatened Species Section.	Species Management Plans listed under FT's Public Authority Management Agreement with DPIPWE, Fauna Recovery Plans .
FaMbc	Mt Arthur burrowing crayfish	Area identified as requiring specific management for Mt Arthur burrowing crayfish	Management in accordance with established guidelines for Mt Arthur burrowing crayfish	Threatened fauna advisor, Fauna Value Database , species specific references, management agreements. Burrowing crayfish Recovery Plan .
FaMo	Masked owl	Area identified as requiring specific management for Masked owl	Management in accordance with established guidelines for Masked owl (see also Appendix 2)	Threatened fauna advisor, Fauna Value Database , species specific references, strategic plans, management agreements.

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FaMp	Fauna - interim management agreement	Agreed interim management under a draft species management plan yet to be finalised and receive approval through a formal management agreement under the Threatened Species Protection Act 1995.	Management in accordance with the agreed interim requirements. Finalise the draft species management plan and gain formal approval. Consultation with FT Conservation Planning and DPIPW Threatened Species Section.	Draft species management plan, threatened species adviser, Fauna Value Database
FaMsb	Mt Mangana stag beetle	Area identified as requiring specific management for Mt Mangana stag beetle	Management in accordance with established guidelines for Mt Mangana stag beetle	Draft Strategic Plan for Mt Mangana stag beetle, Threatened fauna adviser, Fauna Value Database , species specific references, management agreements, Fauna Technical Note No. 5
FaNvw	Northwest velvet worm	Area identified as requiring specific management for North west velvet worm	Management in accordance with established guidelines for North west velvet worm	Species specific references, management agreements.
FaPbb	Ptunarra brown butterfly	Area identified as requiring specific management for Ptunarra brown butterfly	Management in accordance with established guidelines for Ptunarra brown butterfly	Threatened fauna adviser, Fauna Value Database , species specific references, management agreements, Threatened Species Listing Statement , Recovery Plan .
FaSb	Simsons stag beetle	Area identified as requiring specific management for Simsons stag beetle	Management in accordance with Strategic Management Plan for Simsons stag beetle, and any established guidelines	Strategic Management Plan for Simsons stag beetle , Threatened fauna adviser, Fauna Value Database , species specific references, management agreements.
FaSbc	Scottsdale burrowing crayfish	Area identified as requiring specific management for Scottsdale burrowing crayfish	Management in accordance with established guidelines for Scottsdale burrowing crayfish	Threatened fauna adviser, Fauna Value Database , species specific references, management agreements. Burrowing crayfish Recovery Plan .
FaSe	Special environments / habitat	Areas of fauna habitat, significant for reasons other than defined above, that are sufficiently unusual or atypical to warrant special management.	Management consistent with protection of habitat.	Fauna Value Database , recovery plans, Threatened fauna adviser
FaSks	Skemps snail	Area identified as requiring specific management for Skemps snail	Management in accordance with established guidelines for Skemps snail	Threatened fauna advisor, Fauna Value Database , species specific references, strategic plans, management agreements.
FaSp	Swift parrot	Area identified as requiring specific management for Swift parrot	Management in accordance with established guidelines for Swift parrot (see also Appendix 2)	Threatened fauna adviser, Fauna Value Database , species specific references, management agreements.
FaStq	Spotted-tailed quoll	Area identified as requiring specific management for Spotted-tailed quoll.	If area near Meander Dam, manage according to draft Species Management Plan listed under FTs' PAMA (consult FT Conservation Planning). All other areas manage in accordance with established guidelines for Spotted-tailed quoll.	Draft Species Management Plan for the Spotted-tail Quoll on State forest and rehabilitated land near the Meander Dam . Threatened fauna adviser, Fauna Value Database , species specific references, management agreements.

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FaTb	Tasmanian Bettong	Area identified as requiring specific management for Tasmanian Bettong	Management in accordance with established guidelines for Tasmanian Bettong	Threatened fauna advisor, Fauna Value Database , species specific references, strategic plans, management agreements.
FaTof	Trees on Farms	Areas established on private land for providing habitat for threatened species under the Trees on Farms program	Management in accordance with FT's Trees on Farms program	Trees on Farms
FaWhs	Wildlife habitat strip	Established in accordance with guidelines in appendix 3 of MDC manual. Amendments require Planning Branch approval.	Exclusion of harvesting operations and minimisation of impacts of adjacent forest operations.	Taylor (1991). Fauna conservation in production forests in Tasmania, MDC manual, The Fauna Technical Note 8 .
FaWse	White-bellied Sea Eagle	Area identified as requiring specific management for White-bellied Sea Eagle	Management in accordance with established guidelines for White-bellied Sea Eagle (see also Appendix 2)	Threatened fauna advisor, Fauna Value Database , species specific references, management agreements, The Fauna Technical Note 1 , Threatened Tasmanian Eagles Recovery Plan
FaWte	Wedge-tailed eagle	Area identified as requiring specific management for Wedge-tailed eagle	Management in accordance with established guidelines for Wedge-tailed eagle (see also Appendix 2)	Threatened fauna advisor, Fauna Value Database , species specific references, management agreements, The Fauna Technical Note 1 , Threatened Tasmanian Eagles Recovery Plan
FI	Flora	Boundaries to be established in accordance with: (i) Threatened Species Recovery Plans (ii) Botany manuals (Forest Practices Authority) (iii) outcomes of discussions with Forest Practices specialists	Not to be used. Previous FI codes should be transferred to a more specialised FI_ code.	
FIAi	Inland <i>E. amygdalina</i> forest ¹	Manageable areas of Inland <i>E. amygdalina</i> forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement , Forest Practices Authority-Forest Botany Manuals , FT State forest Activity Assessment Guidelines
FIAs	<i>Eucalyptus amygdalina</i> (black peppermint) forest on sandstone	Manageable areas of <i>Eucalyptus amygdalina</i> (black peppermint) forest on sandstone (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Forest Practices Authority-Forest Botany Manuals , Nature Conservation Act 2002, FT State forest Activity Assessment Guidelines

¹ * During 2005-06, Inland *E. amygdalina* was separated into:

- o Inland *E. amygdalina* / *E. viminalis* / *E. pauciflora* on Cainozoic deposits - RFA priority community
- o *E. amygdalina* on mudstone (oldgrowth only) - RFA priority community

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FIAv	<i>Allocasuarina verticillata</i> woodland/forest	Manageable areas of <i>Allocasuarina verticillata</i> woodland/forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Forest Practices Authority-Forest Botany Manuals , Nature Conservation Act 2002, FT State forest Activity Assessment Guidelines
FIBa	<i>E. brookeriana</i> wet forest	Manageable areas of <i>E. brookeriana</i> wet forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement , Forest Practices Authority-Forest Botany Manuals , FT State forest Activity Assessment Guidelines
FICAR	CAR contributing community	Forest community required within reserves to meet CAR reserve target. To be used for forest within RFA Reserves (any Forest Reserves or Informal Reserves on State forest). Not to be used outside of MDC protection. SMZ can be applied to whole reserve rather than re-mapping RFA forests into MDC.	Regional protection levels must be maintained. Any area removed from protection must be offset by an equivalent addition of the same vegetation type within the same region.	Tasmanian Regional Forest Agreement
FICom	RFA priority communities	Manageable areas of RFA priority communities (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of formal reserves.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone. This SMZ can be used to identify multiple priority communities in an area.	Tasmanian Regional Forest Agreement , FT State forest Activity Assessment Guidelines
FICr	<i>Callitris rhomboidea</i> forest	Manageable areas of <i>Callitris rhomboidea</i> forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement , Forest Practices Authority-Forest Botany Manuals , FT State forest Activity Assessment Guidelines
FIDba	<i>Eucalyptus barberi</i> woodland	Manageable areas of <i>Eucalyptus barberi</i> woodland (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Forest Practices Authority-Forest Botany Manuals ; Nature Conservation Act 2002, FT State forest Activity Assessment Guidelines

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FIDsc	<i>E. viminalis</i> / <i>E. ovata</i> / <i>E. amygdalina</i> / <i>E. obliqua</i> damp sclerophyll forest	Manageable areas of <i>E. viminalis</i> / <i>E. ovata</i> / <i>E. amygdalina</i> / <i>E. obliqua</i> damp sclerophyll forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement, Forest Practices Authority-Forest Botany Manuals, FT State forest Activity Assessment Guidelines
FIF	King Billy Pine with deciduous beech	Manageable areas of King Billy Pine with deciduous beech (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Forest Practices Authority-Forest Botany Manuals, Nature Conservation Act 2002, FT State forest Activity Assessment Guidelines
FIG	<i>E. viminalis</i> / <i>E. globulus</i> coastal forest	Manageable areas of <i>E. viminalis</i> / <i>E. globulus</i> coastal forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement, Forest Practices Authority-Forest Botany Manuals, FT State forest Activity Assessment Guidelines
FIGg	Grassy <i>E. globulus</i> forest	Manageable areas of Grassy <i>E. globulus</i> forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement, Forest Practices Authority-Forest Botany Manuals, FT State forest Activity Assessment Guidelines
FIGt	Giant Trees	Protection zones to protect measured trees at least 85m tall or 280 m ³ in modelled volume as listed on the Giant Trees Register (www.gianttrees.com.au). Can include locations that need further assessment for giant trees (i.e as identified through LIDAR).	To be protected from forest operations, planned State forest activities and planned burns. Designated reserved area should also be included in the Protection Zone (see also Appendix 2). When trees senesce to <=85m they can be removed from protection but the SMZ should be retained to indicate that the site once produced a giant tree (and may do so again).	Giant Tree Policy, Giant Trees SOP, FT State forest Activity Assessment Guidelines, Giant Trees Register
FIKg	King Island <i>E. globulus</i> / <i>E. brookeriana</i> / <i>E. viminalis</i> forest	Manageable areas of King Island <i>E. globulus</i> / <i>E. brookeriana</i> / <i>E. viminalis</i> forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement, Forest Practices Authority-Forest Botany Manuals, FT State forest Activity Assessment Guidelines

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FIMa	Flora – Threatened Species' Special Management Zone	Identified threatened flora species habitat requiring specific management through a formal management agreement under the Threatened Species Protection Act 1995. Amendment requires formal approval.	Protection of specific flora species from detrimental disturbance from forest operations, planned forest activities and planned burns. Specific actions identified in threatened species management agreements and recovery plans. Consultation with FT Conservation Planning, or Threatened Species Section DPIPW.	Species Management Plans listed under FT's Public Authority Management Agreement with DPIPW, Threatened Flora Recovery Plans .
FIMe	<i>Melaleuca ericifolia</i> coastal swamp forest	Manageable areas of <i>Melaleuca ericifolia</i> coastal swamp forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement, Forest Practices Authority-Forest Botany Manuals, FT State forest Activity Assessment Guidelines
FIMp	Flora - interim management agreement	Agreed interim management under a draft species management plan yet to be finalised and receive approval through a formal management agreement under the Threatened Species Protection Act 1995	Management in accordance with the agreed interim requirements. Finalise the draft species management plan and gain formal approval. Consultation with FT Conservation Planning and DPIPW Threatened Species Section.	Draft species management plan
FINa	<i>Allocasuarina littoralis</i> forest - Bull oak forest	Manageable areas of <i>Allocasuarina littoralis</i> forest - Bull oak forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Forest Practices Authority-Forest Botany Manuals, Nature Conservation Act 2002, FT State forest Activity Assessment Guidelines
FINp	<i>Notelaea ligustrina</i> / <i>Pomaderris apetela</i> forest	Manageable areas of <i>Notelaea ligustrina</i> / <i>Pomaderris apetela</i> forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement, Forest Practices Authority-Forest Botany Manuals, FT State forest Activity Assessment Guidelines
FIOv	Shrubby <i>E. ovata</i> forest	Manageable areas of Shrubby <i>E. ovata</i> forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement, Forest Practices Authority-Forest Botany Manuals, FT State forest Activity Assessment Guidelines

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FIPj	old growth <i>E. pauciflora</i> forest on dolerite	Manageable areas of <i>E. pauciflora</i> forest on dolerite (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement, Forest Practices Authority-Forest Botany Manuals, FT State forest Activity Assessment Guidelines
FIPp	Pencil Pine forest	Manageable areas of Pencil Pine forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Forest Practices Authority-Forest Botany Manuals, Nature Conservation Act 2002, FT State forest Activity Assessment Guidelines
FIPs	<i>Eucalyptus pauciflora</i> on other (non-dolerite) substrates	Manageable areas of <i>Eucalyptus pauciflora</i> on other (non-dolerite) substrates (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Forest Practices Authority-Forest Botany Manuals, Nature Conservation Act 2002, FT State forest Activity Assessment Guidelines
FIRFA	Supplementary RFA reserves	Reserves agreed to under the supplementary RFA (Tasmanian Community Forest Agreement) in May 2005.	To be protected from harvesting, planned State forest activities and planned burns. All areas are included in the Protection Zone. Any change to informal reserve must be approved by Planning Manager and must have an offset of same vegetation community in the same IBRA. If mapped oldgrowth, offset must also be mapped oldgrowth.	Supplementary RFA, FT State forest Activity Assessment Guidelines
FIRo	<i>E. rodwayi</i> forest	Manageable areas of <i>E. rodwayi</i> forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement, Forest Practices Authority-Forest Botany Manuals, FT State forest Activity Assessment Guidelines
FIRpw	Pencil Pine open woodland	Manageable areas of Pencil Pine open woodland (>1 ha or as otherwise agreed with FPA) confirmed to be present outside of formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Forest Practices Authority-Forest Botany Manuals, Nature Conservation Act 2002, FT State forest Activity Assessment Guidelines
FIRr	Relict rainforest	Relict rainforest areas to be identified and buffered in accordance with FT's Rainforest Policy and Flora Technical Note No 4: management of relict rainforest .	To be protected from harvesting and detrimental disturbance. Protection from fire is high priority.	Neyland (1991). Relict rainforest in eastern Tasmania. Tasmanian NRCP Technical Report No. 6, Flora Technical Note No 4: management of relict rainforest, Rainforest Policy, FT State forest Activity Assessment Guidelines

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FISe	Special environments / communities	Rocky knolls, swampy areas, native grasslands, serpentinite geology, and other sites of significance for flora conservation, together with non-RFA flora communities sufficiently unusual or atypical to warrant special management.	Management consistent with protection of environment/community.	Forest Practices Authority-Forest Botany Manuals
FISg	Old growth <i>E. sieberi</i> forest on granite	Manageable areas of <i>E. sieberi</i> forest on granite (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement, Forest Practices Authority-Forest Botany Manuals, FT State forest Activity Assessment Guidelines
FISo	Old growth <i>E. sieberi</i> forest on other substrates	Manageable areas of <i>E. sieberi</i> forest on other substrates (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement, Forest Practices Authority-Forest Botany Manuals, FT State forest Activity Assessment Guidelines
FITi	<i>E. tenuiramis</i> inland forest	Manageable areas of <i>E. tenuiramis</i> inland forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement, Forest Practices Authority-Forest Botany Manuals, FT State forest Activity Assessment Guidelines
FITs	Flora - threatened species	Boundaries to be established in accordance with Threatened Species Management Plans, Recovery Plans and Botany manuals and in consultation with Forest Practices Authority or DPIPWE Threatened Species Section.	Protection of specific flora species from detrimental disturbance from forest operations, planned State forest activities, and planned burns were applicable. Specific focus of threatened species recovery plans. Other proactive management where required to protect specific flora values. Consultation with FT Conservation Planning, DPIPWE Threatened Species Section and/or Forest Practices Authority.	Specific species references, Forest Practices Authority-Forest Botany Manuals, Flora Recovery Plans .
FIV	Grassy <i>E. viminalis</i> forest	Manageable areas of Grassy <i>E. viminalis</i> forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement, Forest Practices Authority-Forest Botany Manuals, FT State forest Activity Assessment Guidelines
FIVr	Variable retention, retained forest	Aggregates and edge retention in variable retention coupes.	These areas are to be retained for the entire next rotation (See also Appendix 2).	FT Variable Retention Manual Version 9

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FIVw	<i>E. viminalis</i> wet forest on basalt	Manageable areas of <i>E. viminalis</i> wet forest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of Formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Tasmanian Regional Forest Agreement, Forest Practices Authority-Forest Botany Manuals, FT State forest Activity Assessment Guidelines
FIX	King Billy Pine rainforest	Manageable areas of King Billy Pine rainforest (> 1ha or as otherwise agreed with FPA) confirmed to be present outside of formal reserve.	To be protected from harvesting and detrimental disturbance. If this is not prudent or feasible, consult with FT Conservation Planning or Forest Practices Authority. All protected areas should be included in an SMZ. Assessed and mapped areas, excluding those that are small or disjointed, should also be included in the Protection Zone.	Forest Practices Authority-Forest Botany Manuals, Nature Conservation Act 2002, FT State forest Activity Assessment Guidelines
Fu	Fuel reduction	Areas for which frequent fuel reduction burning is a management requirement. Generally this includes strips of land adjacent to towns, plantations and other high-value assets. Buttongrass plains near to wood production forests may also be included.	Fuel reduction burning in accordance with District Fire Management Plans	District Fire Management Plans
Ge	Geoconservation - general	Boundaries established in response to specific studies of geoconservation values.	Protection from detrimental disturbance from forest operations and other State forest activities (protection required varies with sensitivity of values)	Kiernan (1990). Geomorphology manual. Kiernan (1995). An atlas of Tasmania's karst. <i>Tasmanian Regional Forest Agreement</i> Background report part H National Estate report. Tas Geoconservation Database, FT State forest Activity Assessment Guidelines
GeA	Geoconservation - aeolian	Aeolian (wind formed) geomorphological feature requiring special management.	Protection from detrimental disturbance from forest operations and other State forest activities (protection required varies with sensitivity of values)	Kiernan (1990). Geomorphology manual. Tas Geoconservation Database, FT State forest Activity Assessment Guidelines
GeC	Geoconservation - coastal	Boundaries established in response to specific studies of coastal values.	Protection from detrimental disturbance from forest operations and other State forest activities (protection required varies with sensitivity of values)	Kiernan (1990). Geomorphology manual. Tas Geoconservation Database, FT State forest Activity Assessment Guidelines
GeF	Geoconservation - fluvial	Boundaries established in response to specific studies of geoconservation values.	Protection from detrimental disturbance from forest operations and other State forest activities (protection required varies with sensitivity of values)	Kiernan (1990). Geomorphology manual. Tas Geoconservation Database, FT State forest Activity Assessment Guidelines
GeG	Geoconservation - glacial	Boundaries established in response to specific studies of geoconservation values.	Protection from detrimental disturbance from forest operations and other State forest activities (protection required varies with sensitivity of values)	Kiernan (1990). Geomorphology manual. Tas Geoconservation Database, FT State forest Activity Assessment Guidelines

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GeK	Geoconservation - karst	Boundaries established in response to specific studies of karst values.	Protection from detrimental disturbance from forest operations and other State forest activities (protection required varies with sensitivity of values)	Kiernan (1990). Geomorphology manual. Kiernan (1995) Karst User Manual , Tas Geoconservation Database , FT State forest Activity Assessment Guidelines
GeMa	Geoconservation - Management Agreement	Identified geoconservation sites or areas requiring specific management through a formal agreement. Amendment requires formal approval.	Protection of geoconservation sites from detrimental disturbance from forest operations and other State forest activities. Specific actions identified in management agreement. Consultation with FT Conservation Planning and FPA Geomorphologist.	Specific management agreements, community forest agreements, FT State forest Activity Assessment Guidelines
GeSG	Geoconservation - soils/geology	Boundaries established in response to specific studies of geoconservation values.	Protection from detrimental disturbance from forest operations and other State forest activities (protection required varies with sensitivity of values)	Kiernan (1990). Geomorphology manual. Kiernan (1995) Karst User Manual ; Tas Geoconservation Database , FT State forest Activity Assessment Guidelines
GeWet	Flat areas too wet to access	Flat areas too wet to harvest at the time the rest of the coupe is harvested	Managed to maintain integrity of soil structure, but still able to harvested later if dries out	
He	Pest/disease/weed locality	Areas requiring management to control or prevent spread of pests, weeds or diseases. (eg Quarries and gravel pits infected with <i>Phytophthora cinnamomi</i>). Can also include buffer areas between known infestations and nearby sensitive areas.	Gravel from infected areas not to be used in areas potentially free of <i>Phytophthora cinnamomi</i> . Other proactive management where required to minimise impacts of weeds, pests and diseases.	Washdown Guidelines for weed and Disease Control , Allen and Gartenstein (2010) Keep It Clean , Flora Technical Note No 8 . Wardlaw (1990) Pests and Diseases Management Plan for State forests in Tasmania. Weed Management Act 2000 . District weed strategies.
HePCA	Phytophthora containment area	Areas infected with <i>Phytophthora</i> such as quarries and gravel pits.	Gravel from infected areas not to be used in Phytophthora management areas (HePMA) or areas containing susceptible plant communities that are free or largely free of <i>P. cinnamomi</i>	Forest Practices Code (2000) , Washdown Guidelines for weed and Disease Control , Keep It Clean .
HePMA	Phytophthora management area	Areas identified by Barker (1994) or Schahinger (2001) as containing species or communities that are susceptible to <i>Phytophthora</i> .	Protection of susceptible species or communities from detrimental impacts from <i>P. cinnamomi</i> through the application of appropriate quarantine or hygiene measures. Consultation with the FT pathologist is necessary to develop site specific prescriptions on a case-by-case basis.	Forest Practices Code (2000) ; Washdown Guidelines for weed and Disease Control , Keep It Clean . Barker (1994) <i>Phytophthora cinnamomi</i> : The susceptibility and management of selected Tasmanian rare species. Schahinger (2003) Conservation of Tasmanian Plant Communities threatened by Phytophthora cinnamomi . FT State forest Activity Assessment Guidelines . GIS Layer-PC Management Areas
HZ	Hazard (general)	Areas identified as potential hazards for forestry operations. Damage agents considered include landslips, erosion cave-in, flood and accentuated drought stress.	Avoidance of disturbance from forest operations and planned State forest activities that would lead to an unacceptable risk of subsequent erosion, landslip or other damage	Kiernan (1990) Geomorphology manual. Brown and Laffan (1993) Forest soil conservation manual. Forest Practices Code (2000) , FPA (2004) New Guidelines for the protection class 4 streams , FT State forest Activity Assessment Guidelines

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HZE	Erosion hazard	Areas of active erosion or identified erosion potential. Boundaries established in response to guidelines set out in key references.	Avoidance of disturbance from forest operations and planned State forest activities that would lead to an unacceptable risk of subsequent erosion or other damage	Kiernan (1990) Geomorphology manual. Brown and Laffan (1993) Forest soil conservation manual. Forest Practices Code (2000) , FPA Guidelines for the protection class 4 streams , FT State forest Activity Assessment Guidelines
HZL	Landslide hazard	Areas of active landslips or identified landslide potential. Boundaries established in response to guidelines set out in key references.	Avoidance of disturbance from forest operations and planned State forest activities that would lead to an unacceptable risk of subsequent landslide or other damage	Kiernan (1990) Geomorphology manual. Brown and Laffan (1993) Forest soil conservation manual, FT State forest Activity Assessment Guidelines .
Lo	Long rotation native forest	Used to delineate Tall Tree Management Zones as identified in a 1990 planning exercise. Can also be used to record slow growing areas (E4 type regeneration) requiring longer than standard rotation lengths to regenerate.	Code not to be used as superseded by FIGt SMZ. Furthermore, large areas of wet eucalypt forest are designated for long rotation under the Special Timbers strategy.	
Ls	Landscape - general	Generally includes areas assigned an inevident Landscape Management Objective (LPZ Zone A) using the Visual Management System. Can be difficult SMZs to delineate given the subjectivity that can be involved in the assessment	Exclusion or modification of forest operations. Consultation with FPA landscape planner	Chetwynd (1997) Visual planning process for State forest. Forest Practices Authority. Landscape Technical Note 7. FPA(2006) Manual for forest landscape management
LsS	Landscape - skylines	Skylines identified as requiring particular management for landscape. Generally includes areas assigned an inevident Landscape Management Objective (LPZ Zone A) using the Visual Management System.	Exclusion or modification of forest operations. Consultation with FPA landscape planner	Chetwynd (1997) Visual planning process for State forest. FPA Manual for forest landscape management
Rc	Recreation site/ route Education sites	Applies to areas with recreational facilities and tracks and specific areas for which horse or motorbike riding is a primary use. Also applies to areas with specific educational roles where these are not encompassed by a research SMZ.	Maintenance of recreation/education assets and values by exclusion or modification of forest operations or other State forest. Other specific management as required to maintain and improve sites.	Forestry Tasmania (1995). Tourism policy for Tasmania State forests. Inter-agency Working Party (1997) Tasmanian walking tracks strategy and marketing plan ; See FT Corporate Relations and Tourism related documents. FT State forest Activity Assessment Guidelines .
RcMa	Recreation area - Management Agreement	Identified recreation/education sites or areas requiring specific management through a formal agreement (eg community forest agreement). Amendment requires formal approval.	Maintenance of recreation/education assets and values by exclusion or modification of forest operations or other State forest activities. Specific actions identified in management agreement. Consultation with parties to management agreement regarding management issues. Proactive management where required to protect values.	Specific management agreements, community forest agreements. FT State forest Activity Assessment Guidelines .
RsFT	FT Research area	Locations where research trials managed by FT are located.	Management as appropriate to type of site. Protection of research sites and equipment in consultation with FT DFRD.	Specific to site type. Published and unpublished research reports. Also see descriptions in related comments field

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RsOo	Research, Outside Organisations	Locations where research trials managed by outside organisations, either independently of FT or in collaboration with FT, (e.g. Forest Practices Authority) are located.	Protection of research sites and equipment in consultation with relevant researchers prior to forest operations or other State forest activities. May require exclusion or modification of forest operations. Consult FOD database for contact name.	
RsSo	Seed Orchard	Applies to pre-determined established seed orchards	Protection of seed orchards	Internal FT policy. Manager Tasmanian Seed Centre
RsTI	Flora, fauna type locality	Flora and fauna type localities to be coded as SMZs in accordance with attachment 1 of the Regional Forest Agreement.	Management as appropriate to type of site. Consultation with FT Conservation Planning	Tasmanian Regional Forest Agreement
StBwd	Blackwood forests	Includes blackwood swamps and fenced intensive blackwood.	Management for blackwood timbers production. Areas with tea-tree understorey are harvested by patch-clearfells whereas areas with myrtle understorey are selectively harvested.	Forestry Tasmania (2010) Special Timbers Strategy. Forestry Tasmania (2005) Native Forest Silviculture Tech. Bulletin No. 10.
StEuc	Eucalypt forests rich in special timbers	Includes oldgrowth eucalypt forest with an understorey rich in special timbers, which can be recovered during routine harvesting.	These areas will be harvested by variable retention or clearfelling and regrown for at least 200 years	Forestry Tasmania (2010) Special Timbers Strategy. Forestry Tasmania (2010). Lowland Wet Eucalypt Forest- Native Forest Silviculture Tech. Bulletin No. 8. Forestry Tasmania (2009). FT Variable Retention Manual Version 9
StRft	Predominately rainforest special timbers management	These areas were formerly known as Special Timber Management Units and are managed to produce a small sustainable supply of timbers such as myrtle, sassafras and celery-top pine from oldgrowth forests.	Management for special timbers production. Single tree and group selection (gaps are up to two tree lengths wide) harvests are prescribed and the majority of the canopy is retained at each cutting cycle. Nominal rotation lengths are at least 200 years. Protection from fire, disease and illegal harvesting.	Forestry Tasmania (2010) Special Timbers Strategy. Forestry Tasmania (1998) Rainforest Silviculture- Native Forest Silviculture Tech. Bulletin No. 9.
Ut	Utilities	(i) Land set aside as easements for power, water, telecommunications, railways and for major public roads. (ii) Areas set aside for gravel pits greater than 0.1 ha, mines, quarries, rubbish tips and other similar impact activities are also included.	Avoid disruption to utility operation through (1) consultation with utility operators regarding management issues and (2) restriction of adjacent forest operations where appropriate.	Internal Forestry Tasmania policy. Land Property Database (GIS coverage).
Wa	Water intake management areas	Water intakes or other stream segments considered to require particular management beyond that provided by the Forest Practices Code	Particular care to monitor potential impacts on water quality from forest operations and pre-emptive action to prevent these where required.	Forest Practices Code (2000) . Specific catchment references
WaC4s	Class 4 Stream Guidelines	Protection of hydrological features through FPA guidelines to protect water quality	Harvesting exclusions around Class 4 streams	FPA - Guidelines for the protection of class 4 streams

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Appendix 2 Instruction and use of specific SMZ codes

Additional notes on the use and coding of frequently used SMZs for consistent Statewide use and stewardship reporting requirements.

SMZ code	Instruction and use of SMZ code				
FaMo	SMZ boundaries for known Masked owl nest trees or areas of potential habitat. For nests, these areas should also be included in the Protection Zone. For areas of potential habitat, these can stay in the production zone, with a Provcoupe exclude code (e.g. WHC).				
FaSp	<i>Swift parrot prescriptions</i>	<i>Breeding habitat type</i>	<i>MDC</i>	<i>Exclude code</i>	<i>SMZ code, comments field</i>
	Known nest	Not yet defined as this is to be decided on case by case basis			FaSp, known nest
	Retained forest	Flora and foraging	PTI	N/A	SMZ1 = FI_SMZ (e.g.FIGg), SMZ2 = FaSp, comment = foraging habitat
		Foraging	PRD	WHC, STR, or other	FaSp, comment = foraging habitat
		Nesting	PRD	WHC, STR, or other	FaSp, comment = nesting habitat
		Breeding (inc foraging and nesting)	PRD	WHC, STR, or other	FaSp, comment = breeding habitat
	Retained trees (e.g. in dispersed harvesting coupes)	Foraging	PRD	NON	FaSp, comment = foraging habitat
		Nesting	PRD	NON	FaSp, comment = nesting habitat
		Breeding	PRD	NON	FaSp, comment = breeding habitat
FaTof	SMZ boundaries should relate to the designated plantation area set aside under FT's Trees on Farms program, for threatened species habitat, such as the Swift parrot or 40-spotted pardalote.				
FaWTE	SMZ boundaries should relate to the designated reserve boundary set aside for the wedge-tailed eagle nest, not the Line of sight exclusion zone. The SMZ area is to be included in the Protection Zone.				
FaWse	SMZ boundaries should relate to the designated reserve boundary set aside for the white-bellied sea eagle nest, not the Line of sight exclusion zone. The SMZ area is to be included in the Protection Zone.				
FIGt	SMZ boundaries for known Giant trees. The GT reserve area is to be included in the Protection Zone. For areas the need further assessment for giant trees and warrant exclusion from harvesting, these should be placed in a Provcoupe exclude code, with a FIGt SMZ.				
FIVr	<p>SMZ boundaries reflect the areas that have been retained to maintain 'influence' over the felled/regenerated forest during the following rotation. The boundary of the FIVr is to include the following areas:</p> <ul style="list-style-type: none"> - All retained edge and island aggregates; these areas can be defined by clipping out the Felled Area (stored in the FOD HARV Operation) from the Prescribed Area (stored in the FOD Asset), and - Areas of 'forest providing influence' (see p. 14-15 in VR Manual) adjacent to the felled area but outside of the coupe, eg adjacent Formal or Informal Reserves. <p>The FIVr SMZ should only be used where an aggregate will be retained for the entire next rotation. Woodbanks (areas that may be harvested within the next rotation) should not be designated 'FIVr'.</p>				

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Appendix 3: Wildlife habitat strips

Wildlife habitat strips are strips of uncut forest distributed through production forests to assist in the maintenance of the original species richness of the forest at a local level. They are established to meet a range of fauna conservation objectives that can be summarised thus:

1. To cater for invertebrate species with restricted distributions.
2. To provide mature forest habitat across the complete range of environments present within production forests.
3. To act as sources of individuals to recolonise regenerating areas as they become suitable.
4. To ensure populations in the larger reserves do not become isolated.
5. To provide sheltering and nesting areas for those species which can utilise regrowth for feeding but only if mature forest or nest sites are nearby.

The following principles should be applied to the location of Wildlife habitat strips:

1. Wildlife habitat strips should ideally link areas reserved from harvesting (i.e., stream-side reserves, informal and formal reserves, non-commercial or non-production forests). Decisions on the location of strips are hence best made after assessing the location of other areas that will not be harvested.
2. Older stands of forest should be retained in the strip rather than regrowth. However, if an area is mainly regrowth then strips should still be planned and the retained forest maintained beyond the age of harvesting.
3. Retained strips should capture the range of abiotic and biotic factors found in a region (i.e., geology, elevation, slope, aspect, drainage and vegetation).
4. Strips may be primarily located in gullies but must also include areas on slopes and ridges and they should be joined so that they form a continuous network of unlogged forest.
5. Strips should be provided every 3-5 km through wood production zones.
6. The width of the strip should be maximised whenever possible. Strips should be a minimum 100m. In some areas, natural vegetation boundaries can be used to delineate strip boundaries.
7. Forests with high faunal values (ie. important to threatened or priority species) should be over-represented compared with other forest types.
8. A class 1 or 2 watercourse should not run through a strip. Strips should be placed on one side of these large watercourses to ensure an effective width is retained.
9. A smaller watercourse (ie., class 3 and 4) may run through a strip.
10. Strips should not be placed over existing roads. If strips are placed alongside an existing road then consideration should be given to widening the strip. This will ensure the effective functioning of the strip as a habitat reserve and reduce edge effects.
11. The location of strips should be considered permanent. However, slight adjustments to their location can be made due to mapping errors, as determined by on-ground field assessment. The intent of the Wildlife habitat strip's role in the immediate landscape should be maintained.

Wildlife habitat strips are detailed in Taylor, R.J. (1991). Fauna conservation in production forests in Tasmania. Diagrams demonstrating the planning and management of the strips are included in [Forest Practices Authority Fauna Technical Note 8](#).

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Appendix 4: RFA priority and other threatened vegetation communities

In accordance with the Regional Forest Agreement, Environment Protection and Biodiversity Conservation Act (1999) and Nature Conservation Act (2002), threatened forest communities, where they occur outside existing and new Formal and Informal Reserves, will be protected on State forest, wherever prudent and feasible. Such communities should not be scheduled for harvesting on State forests. The lists are derived from:

Table A. Priority forest communities (as listed under the *Tasmanian Regional Forest Agreement 1997*).

Forest community	RFA Code	Tasveg Code	SMZ code
<i>Banksia serrata</i> (saw-tooth banksia) woodland	BS	NBS	
<i>Callitris rhomboidea</i> (Oyster Bay Pine) forest	CR	NCR	FICr
<i>E. viminalis</i> / <i>E. ovata</i> / <i>E. amygdalina</i> / <i>E. obliqua</i> damp sclerophyll forest (Oldgrowth only)	DSC	DSC	FIDsc
<i>Eucalyptus brookeriana</i> (Brookers gum) wet forest	BA	WBR	FIBa
<i>Eucalyptus globulus</i> / <i>E. brookeriana</i> / <i>E. viminalis</i> forest on King Island	KG	WGK	
<i>Eucalyptus pauciflora</i> on Jurassic dolerite (Oldgrowth only)	PJ	DPD	FIPj
<i>Eucalyptus risdonii</i> (Risdon peppermint) forest	RI	DRI	
<i>Eucalyptus rodwayi</i> forest	RO	DRO	FIRo
<i>Eucalyptus sieberi</i> forest on granite (Oldgrowth only)	SG	DSG	FISg
<i>Eucalyptus sieberi</i> on other substrates (Oldgrowth only)	SO	DSO	FIso
<i>Eucalyptus viminalis</i> and/or <i>E. globulus</i> coastal shrubby forest	G	DVC	FIG
Furneaux <i>Eucalyptus viminalis</i> (white gum) forest	VF	DVF	
<i>Eucalyptus globulus</i> / <i>E. brookeriana</i> / <i>E. viminalis</i> forest on King Island	KG	WGK	FIKg
Grassy <i>Eucalyptus globulus</i> (blue gum) forest	GG	DGL	FIGg
Grassy <i>Eucalyptus viminalis</i> forest	V	DVG	FIV
*Inland <i>Eucalyptus amygdalina</i> (black peppermint) forests <ul style="list-style-type: none"> o Inland <i>E. amygdalina</i> / <i>E. viminalis</i> / <i>E. pauciflora</i> on Cainozoic deposits o <i>E. amygdalina</i> on mudstone (oldgrowth only) 	AI	DAI DAZ DAM	FIAi FIAs
Inland <i>Eucalyptus tenuiramis</i> (silver peppermint) forest	TI	DTO DPE	FITi
<i>Melaleuca ericifolia</i> (coast paperbark) forest	ME	NME	FIMe
<i>Notelaea ligustrina</i> / <i>Pomaderris apetala</i> forest (Native olive-dogwood-pinkwood forest)	NP	NNP	FINp
Shrubby <i>Eucalyptus ovata</i> / <i>E. viminalis</i> forest	OV	DOV	FIOv
Wet <i>Eucalyptus viminalis</i> (white gum) forest on basalt	VW	WVI	FIVw

* During 2005-06, Inland *E. amygdalina* was separated into:

- o Inland *E. amygdalina* / *E. viminalis* / *E. pauciflora* on Cainozoic deposits - RFA priority community
- o *E. amygdalina* on mudstone (oldgrowth only) - RFA priority community

Note that within some bioregions, there may be further constraints for some of the other communities as per the Permanent Native Forest Estate policy, updated in December 2009. In particular, non-threatened forest communities must be maintained at a level no less than 75 per cent of the 1996 CRA native forest area, or a minimum of 2,000 hectares, for each community in each IBRA region. The FPA will further advise on this.

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Table B. Other forest communities listed as threatened under the *Nature Conservation Act 2002*.

Forest community	RFA Code	Tasveg Code	SMZ Code
<i>Allocasuarina verticillata</i> woodland/forest	AV	NAV	FIAv
<i>Allocasuarina littoralis</i> forest (Bull oak forest)	n/a	NAL	FINal
<i>Eucalyptus amygdalina</i> (black peppermint) forest on sandstone	AS	DAS	
<i>Eucalyptus barberi</i> woodland	n/a	DBA	FIDba
<i>Eucalyptus cordata</i> forest	n/a	DCR	
<i>Eucalyptus globulus</i> / <i>E. brookeriana</i> / <i>E. viminalis</i> woodland on King Island	n/a	DKW	
<i>Eucalyptus morrisbyi</i> (Morrisby's gum) forest	MO	DMO	
<i>Eucalyptus nitida</i> forest in the Furneaux group	NF	DNF	
<i>Eucalyptus pauciflora</i> on other (non-dolerite) substrates	PS	DPO	FIPs
<i>Eucalyptus perriniana</i> woodland	n/a	DPE	
King Billy Pine rainforest	X	RKP	FIX
King Billy Pine with deciduous beech	F	RKF	FIF
Pencil Pine forest	PP	RPP	FIPp
Pencil Pine open woodland	n/a	RPW	FIRpw
Pencil Pine with deciduous beech	PD	RPF	

n/a – not mapped as a RFA unit

Table C. Other threatened ecological communities listed under the *Environmental Protection Biodiversity Conservation Act 1999*.

Ecological community	Tasveg Code
Lowland <i>Poa labillardierei</i> grassland	GPL
Lowland <i>Themeda</i> grassland	GTL
<i>Eucalyptus ovata</i> - <i>Callitris oblonga</i>	n/a

Table D. Threatened non-forest communities listed under the *Nature Conservation Act 2002*.

Non-forest community	Tasveg Code
Alkaline pans	MAP
<i>Banksia marginata</i> (silver banksia) wet scrub	SBM
Coastal complex on King Island	SCK
Cushion moorland	HCM
Heathland on calcarenite	SHC
Heathland scrub complex at Wingaroo	SCW
Highland grassy sedgeland	MGH
Highland <i>Poa</i> grassland	GPH
King Billy Pine subalpine scrub	RKS
<i>Melaleuca pustulata</i> scrub	SMP
Rainforest fernland	RFE
Riparian scrub	SRI

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Seabird rookery complex	SRC
<i>Sphagnum</i> peatland	MSP
Subalpine <i>Diplarrena latifolia</i> rushland	MDS
Subalpine <i>Leptospermum nitidum</i> (shining tea-tree) woodland	NLN
Wetlands	AWU

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Appendix 5: General Zoning Principles

Inventory and Land Information used in MDC zoning

The determination or reallocation of MDC zones should consider the relevant datasets and other information. Some of the key sources include:

Conservation data

- Threatened flora
- Threatened fauna
- Geoconservation areas and sites
- Karst areas
- Aboriginal sites
- Historical sites
- *Phytophthora cinnamomi* (Root rot disease) management areas and sites
- RFA forest communities
- Threatened non-forest communities (Tasveg)
- Oldgrowth

Other Inventory

- Research sites
- Apiary sites
- Plantations
- Leases
- Utilities (power lines etc)
- Water intakes
- Landscape mapping
- Forest structure (Photo Interpretation mapping)

Land information

- Elevation, topography and stream locations
- Administrative boundaries (Forest Districts, mapsheets, tenure, cadastre boundaries)

Other sources

- District information - File notes etc
- District planner personal knowledge
- Planning Branch, Hobart
- Forest Practices Specialist personal knowledge and specialist manuals
- Published surveys and other studies
- Community (eg recreation sites)

In the original determination of MDC zones, the Wilderness and National Estate Values were key datasets for identifying Protection Zone areas. As most of these areas have been incorporated into Protection Zones, the use of these data for determining new MDC zones is now redundant.

Assessing significance and sensitivity

Central to the task of zoning is judging what represents a sufficiently significant natural or cultural feature to warrant protection or conservation management, and what represents adequate protection. Research papers, journal articles and other publications document non-wood values and their significance and management, and these can provide a basis upon which such judgments can be based. Some of the key references are listed in Appendix 1 (pg 15). A more detailed list is also available in Appendix 7 (pg 40).

Special values need to be evaluated and prioritised, not simply on their importance but also on their sensitivity to various forms of disturbance. For example, a threatened plant species that responds positively to disturbance (such as *Helichrysum lycopodioides*) may not need the same protection afforded to a

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similarly listed but less robust species.

Assessments of significance are generally provided by the relevant manual(s) as indicated in Appendix 1 (page 15). Aboriginal cultural heritage involves particular issues and should involve engagement with the FPA cultural heritage officer in the first instance.

Conservation Planners and forest practices specialists within Forestry Tasmania can be consulted with respect to assessing significance and sensitivity, and to assist in the formulation of prescriptions. If the relevant area of expertise is not held within Forestry Tasmania, then external specialists, including those from the Forest Practices Authority, may also be consulted.

Achieving manageable boundaries

MDC zones need to be manageable units that represent management decisions. Usually they should not simply record the exact location of special values. For example, a Special Management Zone for a relict rainforest patch needs to include an appropriate buffer zone, as well as the extent of the rainforest itself. Principles to consider in deciding SMZ and Protection Zone boundaries include:

1. Be clear on the purpose of the SMZ and the boundary requirements imposed by this purpose.
2. Choose boundaries that can, where possible, be readily located on the ground.
3. Preferentially reuse existing natural or administrative boundaries, or other existing MDC lines rather than creating new lines in new but similar positions. (Not doing this can lead to excessively 'busy' and confusing mapping).
4. Consider the constraints that operational activities such as cable harvesting and regeneration burning can place on coupe shapes and seek Production Zone boundaries that are consistent with these constraints. Also consider likely future road locations, and where possible, reduce the need to road through Protection Zone areas.
5. Consider adjoining land tenures, and where appropriate, seek continuity of management zoning across these.

The need to rationalise the boundaries of management zones does not imply that they cannot be small or oddly shaped.

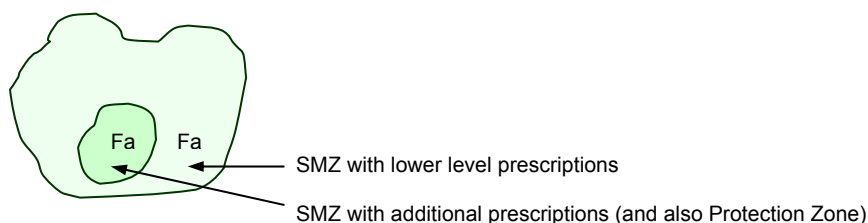
Determining practical boundaries must be done on a case by case basis and often will involve an element of subjectivity. In some cases, there is no one right solution, but rather multiple 'right' solutions of variable merit.

SMZs with spatially variable management.

Some special values have specific management requirements that vary spatially. There may be a core area to which particular prescriptions apply, and a surrounding buffer area with lower level prescriptions. This could be the case with a wedge tailed eagle site for example.

Nested SMZs can be used to represent such situation, as shown in figure 3.

Figure 2. Multiple SMZs to represent values with variable management.



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Preferentially meet multiple objectives

An important principle in determining *RFA* reserves was to preferentially protect areas that meet multiple conservation objectives. For example, where there was a requirement to reserve a proportion of a vegetation type, then areas that also have other values requiring protection would preferentially be selected to meet this target. This principle also applies to MDC in some instances.

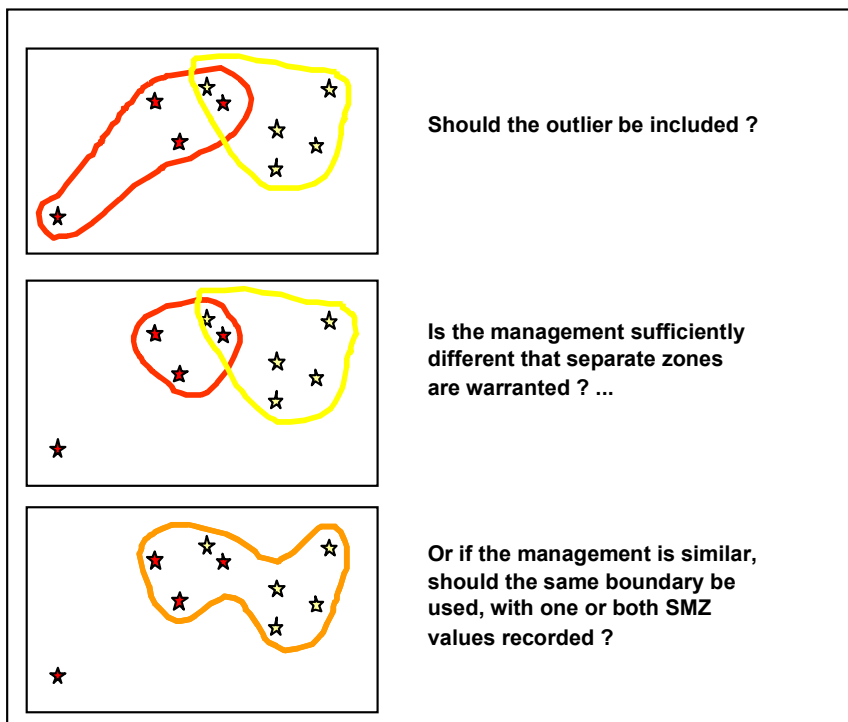
Zoning discontinuous and indeterminate boundaries

A further issue facing the forest planner is how to zone values that may be discontinuous or have indeterminate boundaries. For example, the endangered swift parrot relies on blue gum (*Eucalyptus globulus*) as a food source. Typically, scattered patches of forest with high densities of this eucalypt species can be surrounded by forest with increasing proportions of other eucalypts.

The width of buffers required to protect various special values also needs to be considered. For example, a potentially subjective aspect of cultural heritage management is deciding the extent of an area that needs to be specially managed to protect the significant values of a place.

In instances such as these, recommendations of the Forest Practices Authority should be given substantial weight. The ultimate decision lies with the District Forester as the manager of that area and is based on the balance of all values: environmental, social and economic.

Figure 3. One location - multiple SMZ solutions



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APPENDIX 6a - STANDARD FORM FOR APPROVAL OF CHANGES TO MDC greater than 1 ha

Removal from Protection Zone (Informal reserves) or Interim Protection Zone
(DFM & Manager Planning approval required)

Other change
(DFM approval required)

MAP patch ID	1:25 000 MAP NAME	MAP NO.	CHANGES TO BE MADE	COMMENTS	SMZ code

Completed By

Area Planner:

Date:

District Forest Manager

Approved Not approved Approved subject to amendment

Comments:

Manager Planning

Approved Not approved Approved subject to amendment

Comments:

DFM:

Date:

Manager Planning:

Date:

Mapping / GIS library details (file name & location):

Checked & entered in MDC (spatial) by:

Date:

1. Attach A3 or A4 maps of 10 000 Planning map, an 1:25 000 MDC map, and a Conservation Enquiry map & report. Show on the Planning Map the proposed changes (hand-drawn) and patch number to match the table above (1,2,3 etc). Specialist's report (if applicable) and/or other relevant background information.
2. Submit (electronically preferred) the above attachments to Planning Branch.
3. Preferably submit proposed change area (patches) as spatial files to Planning Branch for special values spatial analysis.

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APPENDIX 6b –STANDARD FORM FOR DISTRICT APPROVAL OF CHANGES TO MDC less than 1ha

- Removal from Protection Zone (Informal reserves) or Interim Protection Zone** (District Forest Manager (DFM) approval required) **Other change** (DFM approval required)

MAP patch ID	1:25 000 MAP NAME	MAP NO.	CHANGES TO BE MADE (include area figures)	COMMENTS	SMZ code

Completed By

Area Planner:

Date:

District Forest Manager

- Approved Not approved Approved subject to amendment

Comments:

DFM:

Date:

Mapping / GIS library details (file name & location):

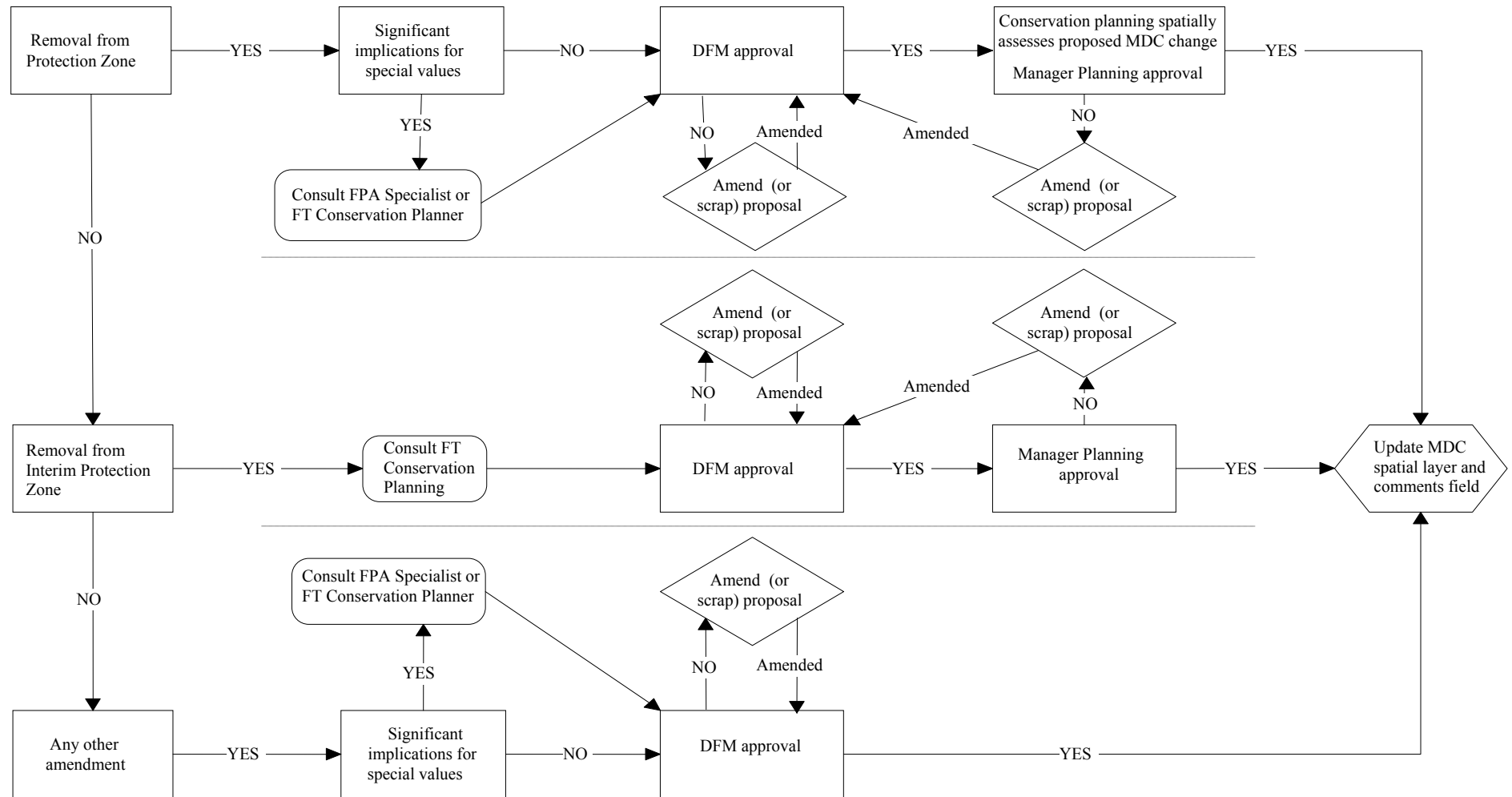
Checked & entered in MDC by:

Date:

Attach an A4 1:10 000 MDC map showing the proposed changes (hand-drawn) and patch number to match the table above (1,2,3 etc). Specialist's report (if applicable) and/or other relevant background information

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APPENDIX 6c MDC changes¹ approval process



1. Approval from the Manager, Planning Branch is not required for MDC changes less than 1 ha per standard A4 Planning Map. Contact Planning Branch if there are a number of such changes sought for a single 1:25,000 map sheet or the proposed changes are of a sensitive nature, eg adjoining formal reserves or likely to contain localised threatened species or communities or other special values.

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Appendix 7: References Applicable to Special Values

The following list of references are relevant to zoning decisions made under the MDC system. Suggestions for relevant additions are welcomed.

General

- Commonwealth of Australia and State of Tasmania (1997). Tasmanian Regional Forest Agreement between the Commonwealth of Australia and the State of Tasmania.
- Commonwealth of Australia and State of Tasmania (2005). Supplementary Tasmanian Regional Forest Agreement.
- FFIC (Forests and Forest Industry Council) (1990). Secure futures for forests and people. Forests and Forest Industry Council, Tasmania.
- Forest Practices Authority (2000) Forest Practices Code.
- Forestry Commission Tasmania (1993). Silviculture use and effects of fire. Native Forest Silviculture Technical Bulletin No. 11. Forestry Commission Tasmania.
- Forestry Tasmania (2003). Regeneration surveys and stocking standards. Native Forest Silviculture Technical Bulletin No. 6. Forestry Tasmania, Hobart.
- Forestry Commission Tasmania (1991). Regeneration surveys and stocking standards. Native Forest Silviculture Technical Bulletin No. 6. Forestry Commission Tasmania.
- Forestry Tasmania (2008). Sustainability Charter: Forest Management Plan 2008. Forestry Tasmania, Hobart.
- Forestry Tasmania (2010). Silvicultural systems for native eucalypt forests. Native Forest Silviculture Technical Bulletin No. 5. Forestry Tasmania, Hobart.
- Forests and Forest Industry Council (1990). Secure futures for forests and people. Forests and Forest Industry Council, Tasmania.
- Tasmanian Public Land Use Commission (1997). Tasmania-Commonwealth Regional Forest Agreement. Background report parts A-H. Tasmanian Public Land Use Commission.

Apiary

- Forestry Tasmania (2000). Guidelines for bee-keeping on State forests. Leaman, T., Gao, R. and Hickey, J. (2008). Changes to oldgrowth forest management in Tasmanian State forests and the implications for the leatherwood nectar resource. A report to the TCFA Implementation Committee. Planning Branch, Forestry Tasmania, Hobart.
- Ziegler, K.I. (1993). Leatherwood nectar resource management report. Forests and Forest Industry Council, Tasmania.

Cultural heritage

- Back-Tracks Heritage Consultants and Evans, Kathryn (1995). Archaeological Reconnaissance of Storeys Creek and Aberfoyle Mines Rossarden, Tasmania, Mine Site Rehabilitation: Phase 2. Report to Industry Safety and Mines Division, Tasmania Development and Resources.
- Bacon, C. A. and Banks, M. R. (1989). A History of Discovery, Study and Exploitation of Coal in Tasmania. Papers and Proceedings of the Royal Society of Tasmania, Volume 123.
- Bird, C. (1996). Places of the pioneers: life and work in Tasmania's forests. Forestry Tasmania.
- Coroneos, C. (1992). A Poor Mans Diggings: An Archaeological Survey of the Lisle-Denison Goldfields, Northeast Tasmania. Volume 1 - The Management Plan, Vol. 2 - The results of the Historic and Archaeological Research. Forestry Commission Tasmania and the Queen Victoria Museum and Art Gallery.
- Cosgrove, R. (1988). The archaeological resources of Tasmanian forests: past Aboriginal use of forested environments. Department of Lands, Parks and Wildlife, Tasmania and Forestry Commission Tasmania.
- Cosgrove, R. (1989). Thirty thousand years of human colonisation in Tasmania new Pleistocene dates. Science 243:1706-1708.
- Cubit, S. (1996). Recollections from the forest: 75 years of forest service in Tasmania. Forestry Tasmania.
- Cubit, S. (1998a). Assessing cultural values in natural areas: The Upper Mersey Valley, Vol. 3, Part 1: historic values assessment – contextual history and significant places, A report to the Australian Heritage Commission, Centre for Environmental Studies, University of Tasmania, Hobart.
- Cubit, S. (1998b). Fires in the wire paddock, Australian Forestry, Vol 61(3).
- Dunnett, G. (1993). An Archaeological Survey and Assessment of Aboriginal Sites in the Northern Region of Tasmania. Report prepared for the Tasmanian Parks and Wildlife Service and Forestry Tasmania, funded by the Australian Heritage Commission.
- Gaughwin, D. (1991). North East Tasmania Historic Sites Inventory Project. Unpublished report to the Forestry Commission Tasmania.
- Gaughwin, D. and Brown, B. (1991). Archaeological survey of recently burnt forested areas. Unpublished report to the Forest Practices Unit, Forestry Commission Tasmania.
- Hepper, J. et al. (1997). Draft statewide walking tracks strategy. Tourism Tasmania, Parks and Wildlife Service and Forestry Tasmania.
- Jackman, G. (1995). "No good is to be found in the granite": Aspects of the social maintenance of mining concepts on Blue Tier tin-field, Tasmania. Australasian Historical Archaeology 13:49-58.
- Kee, S. (1987). North east Tasmanian Archaeological survey: A regional study. Unpublished report to Department of Lands, Parks and Wildlife and the Australian Heritage Commission.
- Kee, S. (1990). Aboriginal Archaeological Sites in North East Tasmania. Occasional Paper No 28. Department of Parks, Wildlife and Heritage, Hobart, Tasmania.
- Knowles, J. N. (1997) Traditional Practices in the Tasmanian World Heritage Area: A Study of Five Communities and their Attachment to the Area. Report for the Steering Committee of the Traditional Practices in the World Heritage Area Project.

NB: All printed copies of this document are uncontrolled. Refer to the electronic copy on the Forest Management System for the latest version.

- Kostoglou, P. (1991). Wielangta State forest - an archaeological survey of the historic timber industry. Forestry Commission Tasmania.
- Kostoglou, P. (1992). Mount Horror State forest An Archaeological Survey of the Historic Timber Industry. Archaeology of the Tasmanian Timber Industry Report Number 2. Forestry Commission Tasmania and Tasmanian Forest Research Council Inc.
- Kostoglou, P. (1993a). Historic timber-getting between Cockle Creek and Lune River Block 1. Forestry Commission Tasmania
- Kostoglou, P. (1993b). Sideling Range An Archaeological Survey of the Historic Timber Industry. Archaeology of the Tasmanian Timber Industry Report Number 3. Forestry Commission Tasmania and Tasmanian Forest Research Council Inc.
- Kostoglou, P. (1996). Dawson's Road: the first road to nowhere. An archaeological survey of the road and its features. Forestry Tasmania.
- Kostoglou, P. (in press). Settlements of the Central Highlands. Forestry Tasmania.
- McConnell, A. (1991). Forest Archaeology Manual. Forestry Commission Tasmania.
- McConnell, A. (1995). Archaeological potential zoning: a strategy for the protection of Aboriginal archaeological sites in Tasmanian State forests. Volume 2, District zoning information. Forestry Tasmania.
- Moore, M.W. (1997). Aboriginal archaeology of dry sclerophyll forest in conservation reserves in Eastern Tasmania. Volume 1, Site evaluations and management recommendations. Volume 2 research design and results. Forestry Tasmania.
- Parham, D. (1992). South-east Tasmania historic sites Inventory project. Forestry Commission Tasmania.
- Ross, B.F. (1990). Sandstone Shelters in Eastern Tasmanian Forests: An Archaeological Survey of Aboriginal Sites. Unpublished report to the Tasmanian Forestry Commission, Hobart.
- Russell, J., Cubit, S., Johnston, C. and Hepper, J. (1998). Assessing cultural values in natural areas: The Upper Mersey Valley, Vol. 1, Main report on methods and findings. A report to the Australian Heritage Commission, Centre for Environmental Studies, University of Tasmania, Hobart.
- Ryan, Lyndall (1996) The Aboriginal Tasmanians (2nd ed.) Paul & Co Pub Consortium
- Scripps, L. (1990). North West Historic Sites Inventory Project Report. Unpublished report of the Forestry Commission Tasmania.
- Sim, R. (1996). Archaeological Potential Zoning Project. A report to Forestry Tasmania.
- Sim, R. (1997). An Archaeological Survey of Rockshelters in North-east Tasmania. A report to Forestry Tasmania.
- Smith, A. (1995a). Assessment of archaeological survey methods in forests. Forestry Commission Tasmania and the Australian Heritage Commission, Canberra.
- Smith, A. (1995b). The assessment of archaeological survey methods for forested environments supplementary study: the post operational survey. Forestry Tasmania and the Australian Heritage Commission.
- Thomas, I. (1992). An Archaeological Survey of Recently Burnt Forest Areas in Eastern Tasmania. Unpublished report to the Forestry Commission Tasmania.

Forest health

- Allen and Gartenstein (2010). Keeping it Clean: A Tasmanian field hygiene manual to prevent the spread of freshwater pests and pathogens. (http://www.nrmsouth.org.au/uploaded/287/15130799_22keepingitcleanweb.pdf)
- Barker, P.C.J. (1994). Phytophthora cinnamomi: the susceptibility and management of selected Tasmanian rare species. Forestry Tasmania and the Australian Nature Conservation Agency, Canberra.
- Parks and Wildlife Service (1993). Phytophthora cinnamomi hygiene manual. Parks and Wildlife Service, Tasmania.
- Podger, F.D., Palzer, C. and Wardlaw, T. (1990). A Guide to the Tasmanian Distribution of Phytophthora cinnamomi and its Effects on Native Vegetation. *Tasforests* 2(1);13-26.
- [Schahinger, R., Rudman T., and Wardlaw, T. J. \(2003\). Conservation of Tasmanian Plant Species & Communities threatened by Phytophthora cinnamomi. Strategic Regional Plan for Tasmania. Technical Report 03/03. Nature Conservation Branch, Department of Primary Industries, Water and Environment, Hobart.](#)
- Wardlaw, T. (1990) Pests and Diseases Management Plan for State forests in Tasmania. Forestry Commission.

Fauna

General

- Forest Practices Board (1998). Threatened fauna manual for production forests in Tasmania. Forest Practices Board. Revised Edition.
- Jackson, J. and Munks, S. (1998). Threatened fauna manual for production forests in Tasmania. Revised Edition. Forest Practices Board, Tasmania.
- Lunney, D. (ed.) The Conservation of Australia's Forest Fauna (second edition). Royal Zoological Society of New South Wales, pp. 688-698.
- Taylor, R.J. (1990). Fauna Manual. Forestry Commission, Hobart.
- Taylor, R.J. (1991). Fauna conservation in production forests in Tasmania. Forestry Commission Tasmania.
- DPIPWE (2009b) Threatened Species website page. Department of Primary Industries, Parks, Water and Environment, Hobart. Available at: <http://www.dpipwe.tas.gov.au/inter.nsf/ThemeNodes/RLIG-53KUPV?open> Accessed July 2010

Birds

- Anon. (1996). *Eagles on the Farm*. Information brochure by Tasmanian Parks and Wildlife Service, Hobart, Tasmania.
- Bekessy, Sarah, Fox, Julian, Brown, Bill, Regan, Tracey and Mooney, Nick (2004) Tasmanian wedge-tailed eagle (*Aquila audax fleayii*) In *Linking landscape ecology and management to population viability analysis: Part 2 – PVA for eleven forest dependent species* Chapter 10, 215-237.
- Bell, P. J. & Mooney, N. J. (1998) Wedge-tailed Eagle Recovery Plan 1998-2003. Department of Primary Industries, Water and Environment, Hobart.

NB: All printed copies of this document are uncontrolled. Refer to the electronic copy on the Forest Management System for the latest version.

- Bell, P., Mooney, N. and Wiersma, J. (1997). Predicting essential habitat for forest owls in Tasmania. Commonwealth of Australia and the State of Tasmania.
- Brereton, R. N. (1996). The Swift Parrot *Lathamus discolor* Recovery Plan. Hobart, Parks and Wildlife Service, Department of Environment and Land Management: 20 pages.
- Brereton, R. N. (1997). Management prescriptions for the swift parrot in production forests. Hobart, Tasmanian RFA Environment and Heritage Technical Committee: 53 pages.
- Brereton, R.N. (1993). The Grey Goshawk (*Accipiter novaehollandiae*) in Southern Tasmania. Forestry Commission Tasmania.
- Brereton, R.N. and Mooney N.J. (1994). Conservation of the nesting habitat of the grey goshawk (*Accipiter novaehollandiae*) in Tasmanian State forests. *Tasforests* 6.
- Brereton, R.N., Bryant, S.C. and Rowell, M. (1997). Habitat modelling of the forty-spotted pardalote and recommendations for management. Public Land Use Commission, Tasmania.
- Brereton, R., Mallick, S. A. and Kennedy, S. J. 2004. Foraging preferences of Swift Parrots on Tasmania n Blue-gum: tree size, flowering frequency and flowering intensity. - *Emu* 104: 377-383.
- Brown, P.B. (1989). The Swift Parrot, *Lathamus discolor*, A Report on its Ecology, Distribution and Status Including Management Considerations. Department of Lands, Parks and Wildlife, Tasmania.
- Brown, W. E. & Mooney, N. J. (1996). Modelling of the nesting habitat of the Wedge-tailed Eagle *Aquila audax fleayi* in Tasmania. Report to the Tasmanian RFA Environment and Heritage Technical Committee.
- Duhig, N., S. Munks, et al. (2000). Mortality rates of retained habitat trees in State forest coupes: a long-term monitoring project. Hobart, Forestry Tasmania & Forest Practices Board: 22. Pages
- Forest Practices Board (1998). Threatened Fauna Manual for Production Forests in Tasmania. Hobart, Forest Practices Board: 225 pages.
- Forestry Tasmania. 2009. Interim Three-year strategic plan for *Lathamus discolor* (swift parrot) on State forest in the Southern Forest and on South Bruny Island. Draft Version 2.1.
- Gaffney and Brown (1992) The Swift Parrot Recovery Plan: Research Phase. Department of Parks Wildlife and Heritage, Tasmania.
- Gaffney, R.F. and Mooney, N.J. (1992). The Wedge-tailed Eagle Recovery Plan: Management Phase. Department of Parks, Wildlife and Heritage, Tasmania.
- Garnett, S. (1992). The Action Plan for Australian Birds. Australian National Parks and Wildlife Service. Pirie Printers, Canberra.
- Groth, D. M. Wetherall, J. D. & Gaffney, R. (in prep.) Determination of the genetic diversity and gender using DNA fingerprinting in south eastern Australian wedge-tailed eagle (*Aquila audax*) populations.
- Hess, J. F. (1996). Bird mortality with power assets project - Phase 2 Report. Hydro-electric corporation in association with the Australasian Raptor Association and Tasmanian Parks and Wildlife Service.
- Jackson, J. and R. Taylor (1994). Threatened Fauna Manual for Production Forests in Tasmania. Hobart, Forestry Tasmania.
- Mallick, S., James, D., Brereton, R. and Plowright, S. 2004. Blue gums *Eucalypts globulus* in north-west Tasmania: an important food resource for the endangered Swift Parrot *Lathamus discolor*. - *The Victorian Naturalist* 121: 36-46.
- Mooney, N. J. (1986). A note on firearms and lead poisoning. *Australasian Raptor Association News* 7(4): 70.
- Mooney, N. J. (1988a). Guidelines for alleviating the effects of forestry operations on raptors 2. Wedge-tailed eagle *Aquila audax*. *Australasian Raptor Association News*. 9: 7-10.
- Mooney, N. J. (1988b). Efficiency of fixed-wing aircraft for surveying eagle nest. *Australasian Raptor Association News*. 9(2): 28-30.
- Mooney, N. J. (1998c). Conservation of wedge-tailed eagles in Tasmania - The blunderbuss approach. in *Australian Raptor Studies II*, RAOU Monograph 3.
- Mooney, N. J. and Holdsworth, M. C. (1991). The effects of disturbance on nesting wedge-tailed eagles (*Aquila audax fleayi*) in Tasmania. *Tasforests*. 3:15-31.
- Mooney, N. J. and Hunt, M. (1983). Raptor mortality in Tasmania. *Australasian Raptor Association News*. 4(2): 7-8.
- Mooney, N. J. and Taylor, R. J. (1996). Value of nest site protection in ameliorating the effects of forestry operations on wedge-tailed eagles in Tasmania. in Eds Birds, D. M., Varanid, D. E. and Negro, J. J. *Raptors in Human Landscapes: Adaptions to Built and Cultivated Environments*. Academic Press, London.
- Mooney, N.J. (2000) Appearances Vs Performance; managing endangered Wedge-tailed Eagles in Forestry Operations. In *Raptors at Risk* : 321-332
- Munks, S., K. Richards, et al. (2004). The importance of adaptive management in 'off-reserve' conservation for forest fauna: implementing, monitoring and upgrading Swift Parrot *Lathamus discolor* conservation measures in Tasmania. Conservation of Australia's Forest Fauna. D. Lunney. Mosman, NSW, Australia, Royal Zoological Society of New South Wales: pp 688 - 698.
- Parks and Wildlife Service (1994) Results of the recovery process for the wedge-tailed eagle in Tasmania. Endangered Species Program - Project Number 332. Report to the Australian Nature Conservation Agency.
- Swift_Parrot_Recovery_Team (2001). Swift Parrot Recovery Plan, Department of Primary Industries Water and Environment, Hobart.
- Taylor, R.J., Duckworth, P., Johns, T. and Warren, B. (1997). Succession in bird assemblages over a seven year period in regrowth dry sclerophyll forest in southern Tasmania. *EMU* 97:220-230.
- Threatened Species Unit (2005) Fauna Recovery Plan: Threatened Tasmanian Eagles 2005-09. Department of Primary Industries, Water and Environment, Hobart.
- Wapstra, M. and R. J. Taylor (1998). "Use of retained trees for nesting by birds in logged eucalypt forest in north-eastern Tasmania." Australian Forestry 61: 48-52.

crayfish

- Blüdnorn, D.R. (1997). Recovery Plan for the Tasmanian Giant Freshwater Lobster *Astacopsis gouldi* Clark. Inland Fisheries Commission, Tasmania.
- Doran, N. and Richards, K. (1996). Management requirements for rare and threatened burrowing crayfish. Report to the Tasmanian NB: All printed copies of this document are uncontrolled. Refer to the electronic copy on the Forest Management System for the latest version.

Snails

- Bonham, K. (1996). Distribution, habitat and conservation status of the Tasmanian endemic snail *Anoglypta launcestonensis* (Reeve, 1853). Report to Forestry Tasmania.
- Clarke, A. (1997). Management Prescriptions for Tasmania's Cave Fauna. Report to Tasmanian RFA Environment and Heritage Technical Committee.

stag beetles

- Forestry Tasmania (2008). Species Management Plan for *Hoplogonus simsoni* (Simmons stag beetle) on State forest in northeast Tasmania. Forestry Tasmania, Hobart.
- Fox, J., Meggs, J., Munks, S. and McCarthy, M. 2004. Simmons stag beetle (*Hoplogonus simsoni*). - In: Fox, J. C., Regan, T. J., Bekessy, S. A., Wintle, B. A., Brown, M. J., Meggs, J. M., Bonham, K., Mesibov, R., McCarthy, M. A., Munks, S. A., Wells, P., Brereton, R., Graham, K., Hickey, J., Turner, P., Jones, M., Brown, W. E., Mooney, N., Grove, S., Yamada, K. and Burgman, M. A. (eds.), Linking landscape ecology and management to population viability analysis. Report 2: Population viability analyses for eleven forest dependent species. University of Melbourne, p. 265 pages.
- Meggs, J. 2003. Threatened stag beetles in Tasmania's production forests: single-species studies contributing to biodiversity conservation. School of Zoology. - University of Tasmania, p. 145.
- Meggs, J.M. (1996a). Distribution and conservation status of two threatened species of lucanid beetle in Tasmania. Unpublished report to the Forestry Commission Tasmania and the Australian Heritage Commission.
- Meggs, J.M. (1996b). Pilot study of the effects of modern logging practices on the decaying-log habitat in wet eucalypt forest in south-east Tasmania. Public Land Use Commission, Tasmania.
- Meggs, J.M. (1997). Simmons stag beetle, *Hoplogonus simsoni*, in North-east Tasmania: Distribution, Habitat Characteristics and Conservation Requirements. A report to the Forest Practices Board and Forestry Tasmania, Hobart.
- Meggs, J. 1999. Surveys for *Lissotes latidens* (broad-toothed stag beetle) in priority coupes on the Forestier and Tasman Peninsulas. - Forestry Tasmania, p. 10.
- Meggs, J. M. and Taylor, R. J. 1999. Distribution and conservation status of the Mt Mangana stag beetle, *Lissotes menalcas* (Coleoptera: Lucanidae). - Papers and Proceedings of the Royal Society of Tasmania 133: 23-28.
- Meggs, J. M. 2002. Potential impacts of firewood harvesting on invertebrate biodiversity. - In: Miller, J. (ed.) Firewood Conferences 2000-2002. Tasmanian Conservation Trust, pp. 178-181.
- Meggs, J. M. and Munks, S. A. 2003. Distribution, habitat characteristics and conservation requirements of a forest-dependent threatened invertebrate *Lissotes latidens* (Coleoptera: Lucanidae). - Journal of Insect Conservation 7: 137-152.
- Meggs, J. M., Munks, S. A. and Corkrey, R. 2003. The distribution and habitat characteristics of a threatened lucanid beetle *Hoplogonus simsoni* in north-east Tasmania. - Pacific Conservation Biology 9: 172-186.
- Michaels, K. 1996. The Occurrence of the Endangered stag beetle *Lissotes latidens* (Westwood) (Coleoptera: Lucanidae) in Selected Areas in the Wielangta Forest Block, Tasmania. - Forestry Tasmania.
- Munks, S., Richards, K., Meggs, J., Wapstra, M. and Corkrey, R. 2004. Distribution, habitat and conservation of two threatened stag beetles, *Hoplogonus bornemisszai* and *H. vandershoori* (Coleoptera: Lucanidae) in north-east Tasmania. - Australian Zoologist 32: 586-596.

Other invertebrates

- Fox, J. C., Mesibov, R. and McCarthy, M. 2004. Chapter 3. Giant velvet worm (*Tasmanipatus barretti*). - In: Fox, J. C., Regan, T. J., Bekessy, S. A., Wintle, B. A., Brown, M. J., Meggs, J. M., Bonham, K., Mesibov, R., McCarthy, M. A., Munks, S. A., Wells, P., Brereton, R., Graham, K., Hickey, J., Turner, P., Jones, M., Brown, W. E., Mooney, N., Grove, S., Yamada, K. and Burgman, M. A. (eds.), Linking landscape ecology and management to population viability analysis, report 2: Population viability analyses for eleven forest dependent species. University of Melbourne & Forestry Tasmania, pp. 71-93.
- Grove, S. J., Yee, M. and Borrer Closs, L. (2008). Tailoring forest management to the habitat needs of the giant velvet worm (*Tasmanipatus barretti*). - In: Lefroy, T. (ed.) Biodiversity - balancing conservation and production: case studies from the real world. - Proceedings of the conference at the University of Tasmania, Launceston, Tasmania.
- Haseler, Murray (1990). The Distribution and Abundance of Tree Hollows and their use by Birds in a Dry Sclerophyll Forest in North-East Tasmania. Report to Forestry Commission Tasmania.
- Invertebrate Advisory Committee (1994). Interim list of native invertebrates which are rare or threatened in Tasmania. Edition 1. Species at risk, Tasmania - Invertebrates. Parks and Wildlife Service, Tasmania.
- Mesibov, R. (1994). Faunal breaks in Tasmania and their significance for invertebrate conservation. *Memoirs of the Queensland Museum* 36: 133-136.
- Yee, M., Grove, S. and Borrer Closs, L. 2007. Giant Velvet worms (*Tasmanipatus barretti*) and postharvest regeneration burns in Tasmania. - *Ecological Management and Restoration* 8: 66-71.

Mammals

- DPIPWE (2010) Recovery Plan for the Tasmanian devil (*Sarcophilus harrisii*). Department of Primary Industries, Parks, Water and Environment, Hobart.
- DPIW (2008a) Tasmanian Devil Species Information Sheet. Unpublished data provided to the Department of the Environment, Water, Heritage and the Arts. Department of Primary Industries and Water, Hobart.
- Hawkins C.E., C. Baars, H. Hesterman, G.J. Hocking, M.E. Jones, B. Lazenby, D. Mann, N. Mooney, D. Pemberton, S. Pyecroft, M. Restani, and J. Wiersma (2006) Emerging disease and population decline of an island endemic, the Tasmanian devil *Sarcophilus harrisii*. *Biological Conservation* 131:307-324.

NB: All printed copies of this document are uncontrolled. Refer to the electronic copy on the Forest Management System for the latest version.

- Jones M.E. (2000) Road upgrade, road mortality and remedial measures: impacts on a population of eastern quolls and Tasmanian devils. *Wildlife Research* 27:289-296.
- Jones M.E., M. Oakwood, C.A. Belcher, K. Morris, A.J. Murray, P.A. Woolley, K.B. Firestone, B. Johnston and S. Burnett (2003) Carnivore concerns: problems, issues and solutions for conserving Australasia's marsupial carnivores. Pp 422-434 in: Jones M.E., Dickman C.R., Archer M. Eds. *Predators with pouches: The biology of carnivorous marsupials*. CSIRO publishing, Melbourne.
- Jones M.E., P.J. Jarman, C.M. Lees, H. Hesterman, R.K. Hamede, N.J. Mooney, D Mann, C. Pukk, J. Bergfeld and H. McCallum (2007) Conservation management of Tasmanian devils in the context of an emerging, extinction-threatening disease: Devil facial tumour disease. *Ecohealth* 4:326-337.
- Jones, M.E. and Rose, R.K. (1996). Preliminary assessment of distribution and habitat associations of the spotted-tailed quoll (*Dasyurus maculatus*) and eastern quoll (*D. viverrinus*). Public Land Use Commission, Tasmania.
- Lynch, T.P. and Blüdnor, D.R. (1997). Reservation assessment and habitat requirements of the giant Tasmanian freshwater lobster, *Astacopsis gouldi*. Report to the Tasmanian RFA Environment and Heritage Technical Committee.
- Vertebrate Advisory Committee (1994). Native Vertebrates which are Rare or Threatened in Tasmania. Edition 1. Species at Risk, Tasmania - Vertebrates. Parks and Wildlife Service, Tasmania.
- Flora**
- Barker, P.J.C. (1992). Autecology of *Phyllocladus* and *Anodopetalum* in Tasmania. Tasmanian NRCP Technical Report No. 10 Forestry Commission Tasmania and Dept. of Arts, Sport, the Environment, Tourism and Territories, Canberra.
- Brown, M.J. and Buckney, R.T. (1983). Structural and floristic variation in the forest communities of the West Tamar, Tasmania. *Papers and Proceedings of the Royal Society of Tasmania* 117: 135-147.
- Brown, M.J. and Duncan, F. (1989). The vegetation of Tasman Peninsula In Smith S.J. (ed). *Tasman Peninsula. Is history enough? Past, present and future use of the resources of Tasman Peninsula*. Royal Society of Tasmania.
- Brown, M.J., Bayly-Stark, H.J., Duncan, F. and Gibson, N. (1985). *Tetratheca gunnii* Hook. F. on serpentine soils near Beaconsfield, Tasmania. Paper and proceedings of the Royal Society of Tasmania 120: 133-138.
- Coates, F. (1991). The conservation ecology and management of five rare species in the Rhamnaceae family. Wildlife Scientific Report 91/3. Department of Parks, Wildlife and Heritage
- Davies, J.B. and Davies, M. (1989). Plant communities of the Ben Lomond Plateau Occasional Publication Number 1. Queen Victoria Museum and Art Gallery, Launceston.
- Davies, J.B. (1988). Land systems of Tasmania, - a resource classification survey. Department of Agriculture, Tasmania.
- Davies, J.B. (1988). Land systems of Tasmania, Region 6: South, East and Midlands - a resource classification survey. Department of Agriculture, Tasmania.
- Davies, J.B. and Davies, M. (1989). Plant communities of the Ben Lomond Plateau Occasional Publication Number 1. Queen Victoria Museum and Art Gallery, Launceston.
- Dickinson, K.J.M. and Kirkpatrick, J.B. (1987). The short-term effects of clearfelling and slash-burning on the richness, diversity and relative abundance of higher plant species in two types of eucalypt forest on dolerite in Tasmania. *Australian Journal of Botany*.
- Duncan, A.M.R. (1991). Management of rainforest in reserves. Tasmanian NRCP Report No. 5. Forestry Commission Tasmania and the Department of the Arts, Sport, the Environment, Tourism and Territories, Canberra.
- Duncan, A.M.R. (1995). Use of silvicultural regrowth by fauna. Forestry Tasmania.
- Duncan, F. and Brown, M.J. (1985). Dry Sclerophyll Vegetation in Tasmania. Wildlife Division Technical Report 85/1. National Parks and Wildlife Service, Tasmania.
- Duncan, F. and Brown, M.J. (1995). Edaphics and Fire: An interpretative ecology of the vegetation near Old Chum Dam, northeast Tasmania. *Proceedings of the Linnaean Society of NSW* 115: 45-60.
- Ellis, R.C. (1985). The relationships among eucalypt forest, grassland and rainforest in a highland area in northeastern Tasmania. *Australian Journal of Ecology* 10: 297-314.
- Forest Practices Authority (2005) *Forest Botany Manual*. Forest Practices Authority, Tasmania.
- Flora Advisory Committee (1994). Native higher plant taxa which are rare or threatened in Tasmania. Edition 1. Species at risk, Tasmania - flora. Parks and Wildlife Service, Tasmania.
- Forestry Commission Tasmania (1989). Tree fern management plan. Forestry Commission Tasmania.
- Forestry Commission Tasmania (1990). High altitude *Eucalyptus dalrympleana* and *Eucalyptus pauciflora* forests. Native Forest Silviculture Technical Bulletin No. 4. Forestry Commission Tasmania.
- Forestry Commission Tasmania (1990). High altitude *Eucalyptus delegatensis* forests. Native Forest Silviculture Technical Bulletin No. 2. Forestry Commission Tasmania.
- Forestry Commission Tasmania (1991). Lowland dry eucalypt forest. Native Forest Silviculture Technical Bulletin No. 3. Forestry Commission Tasmania.
- Garrett, M. (1996). The ferns of Tasmania: their ecology and distribution. Tasmanian Forest Research Council, Hobart.
- Garrett, M. (1997). Rare or threatened Tasmanian forest ferns. Public Land Use Commission, Tasmania.
- Gilfedder, L. (1994). *Barbarea australis* flora recovery plan: management phase. Wildlife Report 91/4. Parks and Wildlife Service, Tasmania.
- Harris, S. and Kirkpatrick, J.B. (1991). The distribution, dynamics and ecological differentiation of *Callitris* species in Tasmania. *Australian Journal of Botany* 39:187-202.
- Hickey J.E. (1994). A floristic comparison of vascular species in Tasmanian old growth mixed forest with regeneration resulting from logging and wildfire. *Australian Journal of Botany* 42.
- Hopkins, Katriona (1995). The Distribution of *Hibbertia calycina* (Guinea Flower) in the St. Helens - Scamander Area. Report to the Eastern Tiers District, Forestry Tasmania.
- Jackson, W.D. (1973). Vegetation of the Central Plateau. In, Banks M.R. (ed.) *The Lake Country of Tasmania*. pp 61-86. Royal Society of Tasmania.

NB: All printed copies of this document are uncontrolled. Refer to the electronic copy on the Forest Management System for the latest version.

- Jarman, S.J. and Hickey, J.E. (1996). The Tasmanian component of the National Rainforest Conservation Program - Summary of projects. Tasmanian NRCP Report No. 16. Forestry Tasmania and the Department of the Environment, Sport and Territories, Canberra.
- Kantvilas, D., Howe D. and Elix, J.A. (1997). A preliminary assessment of the distribution and conservation status of some lichens in Tasmania's forests. Public Land Use Commission, Tasmania.
- Keith, D. (1998). Recovery plan - Tasmanian forest Epacrids: 1999-2004. Tasmanian Parks and Wildlife Service, Hobart.
- Kirkpatrick, J.B. (1977). Native Vegetation of the West Coast Region of Tasmania. In: M.R. Banks and J.B. Kirkpatrick (Eds.). Landscape and Man. Proceedings of the Symposium of the Royal Society of Tasmania, 55-80.
- Kirkpatrick, J.B., Brown, M.J. and Moscal, A. (1980). Threatened Plants of the Tasmanian Central East Coast. Tasmanian Conservation Trust, Hobart
- Lynch, A.J.J. (1993). Conservation biology and management of 16 rare or threatened FABACEAE species in Tasmania. Endangered species program project no. 4, Australian National Parks and Wildlife Service. Parks and Wildlife Service, Department of Environment and Land Management, Tasmania.
- Neyland, M.G. (1991). Relict rainforest in eastern Tasmania. Tasmanian NRCP Technical Report No. 6. Parks, Wildlife and Heritage, Tasmania and the Department of the Arts, Sport, the Environment, Tourism and Territories, Canberra.
- North, A.J., Johnson, K.J., Ziegler, K., Duncan, F., Hopkins, K., Ziegler, D. and Watts, S.E. (1998). Flora values of recommended areas for protection and forest reserves in Tasmania. Forestry Tasmania.
- Packham, J. (1991). Myrtle wilt. Tasmanian NRCP Report No. 2. Forestry Commission Tasmania and the Department of the Arts, Sport, the Environment, Tourism and Territories, Canberra.
- Pannell, J. (1992) Swamp Forests of Tasmania. Forestry Commission.
- Peterson, M.J. (1990). Distribution and conservation of Huon pine. Forestry Commission Tasmania.
- Potts, B.M. (1989). Population Variation and Conservation Status of a Rare Tasmanian Endemic; *Eucalyptus cordata*. Research Report No. 4: Tasmanian Forest Research Council, Hobart
- Potts, W.C. (1997). The conservation biology of threatened lowland *Euphrasia* taxa in south-eastern Tasmania. Parks and Wildlife Service, Tasmania.
- Walsh, D. (1994). Long term floristic monitoring within the wood production forests of north-west Tasmania. Forestry Tasmania.

Fuel management

- Beck, Judi (1994). A Preliminary Study of Fire Behaviour and Short Term Effects in Dry Sclerophyll Regrowth Forests of Tasmania. Forestry Tasmania, Hobart.
- Cremer, K.W. and Mount, A.B. (1965). Early stages of plant succession following the complete felling and burning of *Eucalyptus regnans* forest in the Florentine Valley, Tasmania. Australian Journal of Botany 13:303-322.
- Marsden-Smedley, J. (1995). (a) Fire Management in Tasmanian Buttongrass Moorlands, (b) Circular Head Moorland, Heathland and Wet Scrub Fuel Management, (c) Effect of Hazard Reduction Burning on the Fuel Characteristics of the Dempster and Lawson Plains - A set of unpublished reports prepared for Forestry Tasmania.
- Marsden-Smedley, J. and Williams, K. (1993). Floristics and fire management in West Tamar Buttongrass Moorlands. Parks and Wildlife Service, Department of Environment and Land Management, Tasmania.

Hazard (geomorphic)

- Bradbury, J. (1995) Arthur River Estuary: Reconnaissance Geomorphology and Bank Erosion Monitoring Program. Unpublished report. Parks and Wildlife Service.
- Brown, G. and Laffan, M. (1993). Forest Soil Conservation Manual. Forestry Commission Tasmania.
- Bunce, S.E.H. 2000. The fluvial geomorphology and sedimentology of class 4 streams affected by clearfell logging in northeast Tasmania. Thesis, School of Geography and Environmental Studies, University of Tasmania, Hobart. 160 p.
- Bunce, S.E.H.; McIntosh, P.D.; Davies, P. and Cook, L.S.J. 2001. Effects of pre-Code forest clearfelling on the geomorphology and sedimentology of headwater streams in upland granite terrain, Tasmania. Proceedings of the Third Australian Stream management Conference, 27-29 August, 2001, Brisbane, Queensland, pages 87-93. CRC for Catchment Hydrology, Melbourne.
- Davies, P.E.; Hart, R.; Mitchell, C; Wright, D.; Smethurst, P. 1999. Forest Practices Code: Review of Soil and Water Provisions. Final report to the Forest Practices Advisory Council. Forest Practices Board, Hobart. 93 p
- Grant, J.; Laffan, M.; Hill, R. 1995. Soils of Tasmanian State forests 2. Forester Sheet. Soils Bulletin 2. Forestry Tasmania, Hobart.
- Grant, J.C., Laffan, M.D., Hill, R.B. and Neilsen, W.A. (1995). Forest soils of Tasmania: a handbook for identification and management. Forestry Tasmania, National Landcare Program and the Forests and Forest Industry Council of Tasmania.
- Hill, R.; Laffan, M.D.; Grant, J. 1995. Soils of Tasmanian State forests 3. Forth Sheet. Soils Bulletin 3. Forestry Tasmania, Hobart. 317p
- Laffan, M.; Grant, J.; Hill, R. 1995. Soils of Tasmanian State forests 1. Pipers Sheet. Soils Bulletin 1. Forestry Tasmania, Hobart.
- Laffan, M.; Grant, J.; Hill, R. 1996. A method for assessing the erodibility of Tasmanian Forest soils. Australian Journal of Soil and Water Conservation 9: 16-21.
- Laffan, M.D. 2000. A rough field guide for assessing soil erodibility. Forest Practices News 3: 13. Forest Practices Board, Hobart, Tasmania.
- McIntosh, P.D. and Laffan M.D. (in press). Soil erodibility and erosion hazard: extending these cornerstone soil conservation concepts to headwater streams in the forestry estate in Tasmania. North American Forest Soils Conference, Toronto, Canada, August 2003
- Williamson, J.R. (1990). The effects of mechanised forest harvesting operations on soil properties and site productivity. Forestry Commission.

NB: All printed copies of this document are uncontrolled. Refer to the electronic copy on the Forest Management System for the latest version.

Geoconservation

- Augustinus, P.C., Pollington, M.J. and Colhoun, E.A. (1995). Magnetostratigraphy of the Late Cenozoic glacial sequence, Pieman River basin, western Tas. *Aust. J. Earth Sci.* 42:509-518.
- Banks, M.R., Colhoun, E.A. and Chick, N.K. (1977). A reconnaissance of the geomorphology of central western Tasmania. Pp 29-54 [in]. MR Banks and JB Kirkpatrick (eds) *Landscape and Man*. Roy. Soc. Tas.
- Bradbury, J. (1994). Continuation of Preliminary Earth Inventory - central, northern and western Tasmania. Unpublished report, Parks and Wildlife Service, Hobart.
- Colhoun, E.A. (1985). Glaciation of the West Coast Range, Tasmania. *Quaternary Research* 23:39-59.
- Dixon, G. and Duhig, N. (1996). Compilation and assessment of some places of geoconservation significance. Public Land Use Commission, Tasmania.
- Dixon, G., Sharples, C., Household, I., Pemberton, M. and Eberhard, R. (1997). Conservation management guidelines for geodiversity. Commonwealth of Australia and the State of Tasmania.
- Eberhard, R. (1994). Inventory and management of the Junee River karst system, Tasmania. *Forestry Tasmania*.
- Eberhard, R. (1996). Inventory and management of karst in the Florentine Valley, Tasmania. *Forestry Tasmania*.
- Kiernan, K. (1989). Caves, Karst and Management at Mole Creek, Tasmania. Department of Parks, Wildlife and Heritage Tasmania. Occasional Paper 22.
- Kiernan, K. (1990a). *Geomorphology manual*. Forestry Commission Tasmania.
- Kiernan, K. (1990b). The extent of late Cainozoic glaciation in the Central Highlands of Tasmania. *Arctic and Alpine Research* 22(4):341-354.
- Kiernan, K. (1995). *An Atlas of Tasmanian Karst, Volumes 1 & 2 Atlas*. Tasmanian Forest Research Council.
- Kiernan, K. (1996). *Conserving geodiversity and geoheritage: the Conservation of Glacial Landforms*, Forestry Tasmania and the Forest Practices Board, Hobart.
- Kiernan, K. (1997). *Conserving Tasmania's geodiversity and geoheritage: the conservation of landforms of coastal origin*. Forestry Tasmania.
- Sharples, C. (1993). *A methodology for the identification of significant landforms and geological sites for geoconservation purposes*. Forestry Commission Tasmania.
- Sharples, C. (1994). *A Reconnaissance of Landforms and Geological Sites of Geoconservation Significance in the North-Eastern Tasmanian Forest Districts (Eastern Tiers and Bass Forest Districts)*. Two Volumes (Inventory, Description). Forestry Tasmania.
- Sharples, C. (1994). *Landforms and Geological Sites of Geoconservation Significance in the Huon Forest District; Two Volumes (Inventory, Description)*. Forestry Commission Tasmania.
- Sharples, C. (1995). *A Reconnaissance of Landforms and Geological sites of geoconservation significance in the State forests of eastern Tasmania (parts of Derwent and Eastern Tiers Forest Districts)*. Volume 1 inventory and Volume 2 description. Forestry Tasmania.
- Sharples, C. (1996) *A Reconnaissance of Landforms and Geological Sites of Geoconservation Significance in the Circular Head Forest District; Two Volumes*. Forestry Tasmania.
- Sharples, C. (1996). *A Reconnaissance of Landforms and Geological Sites of Significance in the Murchison Forest District*. A report to Forestry Tasmania.
- Sharples, C. (1997). *A reconnaissance of landforms and geological sites of geoconservation significance in the western Derwent Forest District*. Forestry Tasmania.

Giant Trees

- Forestry Tasmania (2002). *Giant Trees Policy*
- Giant Tree Consultative Committee (2010). *Giant Trees* <http://gianttrees.com.au/>. (online) Forestry Tasmania, Accessed September 2010.
- Hickey, J.E., Kostoglou, P. and Sargison, G.J. (2000). Tasmania's tallest trees. *Tasforests* 12: 105-122.
- Forestry Tasmania (2001) *Giant trees website* (<http://gianttrees.com.au/>)

Landscape

- Chetwynd, B.G. (1997). *Visual planning process for State forest*. Unpublished report to Forestry Tasmania.
- Forestry Commission Tasmania (1990). *A manual for forest landscape management*. Forestry Commission Tasmania.
- Forest Practices Authority (2006) *Landscape Technical Note 7*.

Recreation / Education

- Forestry Tasmania (1994). *Guided nature-based tourism in Tasmania's forests; trends, constraints and implications*. Forestry Tasmania; Hobart.
- Forestry Tasmania (1995). *Tourism policy for Tasmania's State forests and supporting information*. Forestry Tasmania.
- Inter-agency Working Party (Statewide Walking Tracks Strategy) (1997). *Tasmanian walking tracks strategy and marketing plan*. Tourism Tasmania, Parks and Wildlife Service, Tasmania and Forestry Tasmania.
- Interdepartmental Working Group for the Recreational/Tourism Use of State Owned Land (1995). *Policy for the use of recreational vehicles on State owned lands in Tasmania*. Forestry Tasmania, Department of Tourism, Sport and Recreation, Tasmanian Recreational Vehicle Association and Parks and Wildlife Service, Tasmania.
- McArthur, S. (1994). *Forestry Commission Visitor Manual*. Forestry Commission Tasmania.
- Tasmanian Trail Association Incorporated (1997) *The Tasmanian Trail*. Commonwealth Forest Ecotourism Program, Canberra.

NB: All printed copies of this document are uncontrolled. Refer to the electronic copy on the Forest Management System for the latest version.

Water

Forest Practices Authority (2004) New Guidelines for the protection of Class 4 streams.

Wells, F. 2002. Classification of Class 4 streams in the forestry estate of Tasmania. Draft report to the Forest Practices Board and the FIAT/FT Research Fund. Forest Practices Board, Hobart. 66 p.

Wilson, C.J. (1995). The effect of forest management practices on water quality and yield. Progress report to the Tasmanian Forest Research Council, Inc. Tasmanian Forest Research Council Annual Report p 24-25.

Plantation

Coleman, J.D., Montague, T.L., Eason, C.T. and Statham, H.L. (1997). The management of problem browsing and grazing mammals in Tasmania. Department of Primary Industry and Fisheries, Tasmania.

Dredge, P.D. (1997). Weed management in Forestry Tasmania plantations. Plantation Forestry Bulletin No. 1. Forestry Tasmania.

Dredge, P.D. (1998) Field Guide for the management of browsing animals in Tasmanian forests and farmland. Wild Animal Management Group.

Forestry Commission Tasmania (1990). Plantation Handbook. Forestry Commission Tasmania.

Forestry Commission Tasmania (1994). Pesticide application manual. Forestry Commission Tasmania.

Laffan, M. (1997). Site selection for hardwood and softwood plantations in Tasmania: a methodology for assessing site productivity and suitability for plantations using land resource information. Soils Technical Report No. 3. Second Edition. Forestry Tasmania and the Forest Practices Board.

Statham, H (1983) Browsing Damage in Tasmanian Forest Areas and Effects of 1080 Poisoning. Forestry Commission Tasmania.

Special timbers

Forestry Tasmania (1998) Rainforest Silviculture. Native Forest Silviculture Technical Bulletin No. 9, Forestry Tasmania.

Forestry Tasmania (2005). Blackwood. Native Forest Silviculture Technical Bulletin No 10. Forestry Tasmania.

Forestry Tasmania (2010). Special Timbers Strategy. Forestry Tasmania, Hobart.

NB: All printed copies of this document are uncontrolled. Refer to the electronic copy on the Forest Management System for the latest version.