



Threatened Species ADVISER

User Manual | June 2021



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Background

The Threatened Species Adviser (TSA) is a decision-support tool intended for use by those conducting biodiversity evaluations as part of the development of forest practices plans (FPPs) for activities covered by the Tasmanian forest practices system in accordance with the procedures for the management of threatened species agreed between the Department of Primary Industries, Parks, Water & Environment (DPIPWE) and the Forest Practices Authority (FPA), under section D. of the Forest Practices Code (for a full copy of the 'Agreed Procedures', see the FPA's website <https://www.fpa.tas.gov.au/>).

The primary objective for the management of threatened species in areas covered by the forest practices system is to contribute to the maintenance of habitat and populations of threatened species throughout their ranges and over time. The TSA provides the planner with recommended management actions (recommendations) to incorporate into FPPs for specific forestry operations.

Recommendations are provided for species currently listed as threatened on the Tasmanian *Threatened Species Protection Act 1995* and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* that are considered to be affected by activities covered by the Tasmanian forest practices system. The recommended actions are based on current knowledge and expert opinion and they may change as new information becomes available. The recommended actions for individual species are to be applied unless alternative management actions are accepted by the FPA in consultation with DPIPWE as a way of meeting the management objective for the species.

The management of threatened species under the *Forest Practices Code* is part of a broader legal and policy framework for the conservation of threatened species. The code defines the contribution that landowners should make to the conservation of non-wood values by way of a prescribed 'duty of care'. The recommended actions under the TSA and other relevant planning tools are to be individually and collectively integrated and prioritised during the planning process by Forest Practices Officers to ensure that the most effective and practical outcomes are achieved within the duty of care thresholds of the code. The management of values beyond the duty of care thresholds in the code can only be achieved through voluntary agreement with the landowner or through other legislative mechanisms. The *Nature Conservation Act 2002* provides that affected landowners may apply for compensation where the FPA has made a decision with respect to a forest practices plan that imposes constraints beyond the duty of care for threatened species or threatened native vegetation communities.

The TSA captures current scientific and expert knowledge with respect to each species. It may be updated in accordance with the Agreed Procedures Forest Practices Officers and forest managers will be informed of substantial changes to the TSA (e.g. new species, changes to decision-pathways and recommendations) but not of minor changes (e.g. typographic corrections).

The TSA was initially developed as a Threatened Fauna Adviser (TFA) during the late 1990s/early 2000s. The first fully endorsed TFA version was released on 13 March 2002, it was then updated in 2014 inline with software updates and located on the FPA's website. In 2020 the released the threatened Plant Adviser (TPA) which was subsequently combined with the TFA to become the TSA. Therefore the current 2020 version of the TSA is the first iteration of the combined planning tools.

See the Acknowledgments in the online help document for a list of the people involved in developing the current version of the TSA.

Using the Threatened Species Adviser

The TSA is a web-based system and will run effectively on any internet platform, and on both PC and Mac operating systems. An unlimited number of users can access the online TSA at any one time. Users have an unlimited session time but inactivity at the user's end will create a time-out after 10 minutes and the user will be prompted to restart their session.

The TSA is a publicly available product and does not require password-protected user names or logon credentials. Users of the TSA are required, however, to agree to a set of terms of use (which appear at each and every session of use of the TSA). Users must also enter a user name and operation location – these details (and the date and time of use) appear in the footer of the recommendations delivered after following the decision-pathways.

Unlike the previous version of the tool, no user-end installation is required. The user must navigate to the TSA on the FPA's website <http://www.fpa.tas.gov.au> to first access the online version of the tool. It is recommended that users bookmark the website to their favourites and/or create a desktop shortcut.

The new version of the TSA appears similar to the previous version 2002 and 2014 TFA. It has been programmed using the same (but updated) software (XpertRule) but now runs through a web server. The general layout of the TSA is such that the 'exit', 'back', 'continue' and 'help' buttons are in approximately the same position on each page to allow easier navigation.

For each species included in the TSA there are a series of 'decision-pathways' that vary in complexity (the decision-pathways are similar to a dichotomous plant identification key but with options for 'yes/no', 'multiple choice' and 'user-defined' choices). Each branch of the decision pathway is presented to the user as a dialog screen. Some dialog screens simply contain text information and a link to the next screen, while others incorporate additional windows that require the user to select an

option. Selection of an option may lead directly to a report (showing the recommendations) or to additional dialog screens requiring further option selections.

The TSA requires the user to be appropriately trained in the use of the TSA, and in the identification and management of habitat for threatened species within wood production forests. The TSA should not be used (or interpreted by) people who have not received such training. Forest industry planners receive this training from the Forest Practices Authority during courses (e.g. the Forest Practices Officer Course, Biodiversity Course) and species-specific or issue-specific field days. After receiving the appropriate training, users can use the TSA following the steps outlined below.

Running a Threatened Species Adviser session

There are three basic processes that need to be completed for threatened species evaluations;

- 1) Identifying species, range and habitat
- 2) Obtaining a recommendation, and
- 3) Applying the recommendation

The online version of the TSA is used in the second step to obtain appropriate management recommendations for the operation.

Step 1: Identifying species, range and habitat

Users should first access an appropriate database to identify if the proposed FPP or other planning unit area is known to, or likely to, support threatened species. The Forest Practices Authority recommends the use of its online Biodiversity Values Database (BVD), which provides information on threatened species known localities, predicted ranges and potential habitat. It is the user's responsibility to ensure that the most up to date information is used in planning.

A field assessment will be required in almost all cases to determine the presence, extent and suitability of habitat (e.g. potential vs. significant), confirm sites (e.g. precise location of a species record), and identify management issues (e.g. potential disturbance from roading, carting, harvesting, plantation management etc).

Note that a proposed FPP or other planning unit area may support several threatened species.

Step 2: Obtaining a recommendation

Once the user has determined whether or not the plan area contains a known locality for a threatened species and/or potential habitat and the range category (e.g. known, core, potential range) using the

Biodiversity Values Database, they should navigate to the TSA's initial screen by

- 1) typing in the web address
(http://www.fpa.tas.gov.au/Planning/biodiversity/threatened_species_adviser), or
- 2) clicking on a desktop shortcut to the address, or
- 3) clicking on the "planning" button on the FPA website home page, then clicking on the "biodiversity button" and then navigating to the "threatened species adviser" button.

The initial screen is embedded in the FPA website and looks like this;



On the opening screen, select the category you are seeking advice on (flora or fauna) and then click on the 'Continue' button (lower right hand side) to progress. You will be taken to the landing page for either the threatened plant adviser (for plants) or the threatened fauna adviser (for fauna). Click on the 'Continue' button to progress.



On the next screen (user obligations and agreement), read the text on the caveats and user obligations and click on the 'Continue' button if you agree to the terms of use (see image on next page). If you do not agree to these conditions then click on 'Exit' to exit the TSA. It is important that these terms are read and the step is completed.

The following caveats must be considered for each proposed forestry operation. If there is any doubt regarding the applicability of the use of the Threatened Plant Adviser in a particular situation, advice must be sought from the Forest Practices Authority.

The *Threatened Plant Adviser* is a decision-support tool intended for use by those conducting biodiversity evaluations as part of the development of forest practices plans for activities covered by the Tasmanian Forest Practices System in accordance with the procedures for the management of threatened species agreed between the Department of Primary Industries, Parks, Water & Environment (DPIPWE) and the Forest Practices Authority (FPA), under section D3.3 of the Forest Practices Code (for a full copy of the 'agreed procedures', follow this [link](#)).

The primary objective for the management of threatened species in areas covered by the Forest Practices System is to contribute to the maintenance of habitat and populations of threatened species throughout their ranges and over time. The Threatened Plant Adviser provides the planner with recommended actions to incorporate into forest practices plans for specific forestry operations.

Recommendations are provided for species currently listed as threatened on State and Commonwealth legislation that are considered to be affected by activities covered by the Tasmanian Forest Practices System. The prescribed actions are based on current knowledge and expert opinion and they may change as new information becomes available. The recommended management actions for individual species are to be applied unless alternative management actions are accepted by the FPA in consultation with DPIPWE as a way of meeting the management objective for the species.

The management of threatened species under the Forest Practices Code is part of a broader legal and policy framework for the conservation of threatened species. The Code defines the contribution that landowners should make to the conservation of non-wood values by way of a prescribed 'duty of care'. The recommended actions under the Threatened Plant Adviser and other relevant planning tools are to be individually and collectively integrated and prioritised during the planning process by Forest Practices Officers to ensure that the most effective and practical outcomes are achieved within the duty of care thresholds of the Code. The management of values beyond the duty of care thresholds in the Code can only be achieved through voluntary agreement with the landowner or through other legislative mechanisms. The *Nature Conservation Act 2002* provides that affected landowners may apply for compensation where the FPA has made a decision with respect to a forest practices plan that imposes constraints beyond the duty of care for threatened species or threatened native vegetation communities.

In continuing with the use of the Threatened Plant Adviser, you acknowledge that you understand and agree to the following conditions:

- The recommendations provided by the Threatened Plant Adviser only apply to activities covered by the Tasmanian Forest Practices System (to determine which activities require consideration, check the [Tasmanian Forest Practices Regulations](#) and the [Tasmanian Forest Practices Act 1985](#)).
- Lack of inclusion of a currently listed species potentially present in a proposed Forest Practices Plan area, or of a species listed since the release of the Threatened Plant Adviser, does not imply that management actions are not required. Further advice will need to be sought from the Forest Practices Authority for these situations.

Exit

Continue

On the next screen, select the operation type most applicable to your situation (in most cases, this will be 'Forestry operations'), then click 'Continue'.

Forestry Operation *
 Activites not classified as a "Forestry Operation"
 Activites on islands (excluding Bruny Island)

What is the operation type for which a Forest Practices Plan is being prepared?

Options

Choose 'forestry operations' for all standard forestry activities such as native forest silviculture, operation of forest roads and quarries, management of existing plantations, or establishment of new plantations

Choose 'Activities not classified as a "forestry operation"' for all other proposals involving the clearing of native forest and/or threatened native vegetation types, such as clearing for primary production and clearing requiring an FPP but not exempt under the Regulations

Choose 'Activities on islands (excluding Bruny Island)' for any proposals (whether standard forestry operation or some form of land clearing) on islands such as King Island, Flinders Island and others but not Bruny Island (choose one of the other options for activities on that island)

All operations involving clearance and conversion of native forest to another land use (e.g., plantation, pasture) must be referred to the Forest Practices Authority biodiversity program for advice on threatened species management.

The Tasmanian Government [Policy for Maintaining a Permanent Native Forest Estate](#) may apply. It is recommended that this policy is taken into consideration when drafting proposed management action for threatened species.

Back
Help
Exit
Continue

On the next screen, enter a user name and location (this should be detailed enough to allow both yourself and auditors to be able to track who used the TSA, and what coupe/operation/FPP it was used for). Click 'Continue' when these details have been completed (see image on next page).

Please enter the following:

Your Name:

Coupe ID:

Exit Help Back Continue

On the next screen, select the species for which you need to obtain a recommendation, then click 'Continue'. You can scroll down the list by using the scroll bar on the right hand side of the list. You may only select one species at a time. Note that you will need to return to this screen for each of the species that may be affected by the proposed forestry operation. You can return for subsequent species by clicking on the 'Back' button, or by clicking on the 'Same operation different species' button at the bottom of each final recommendation.

Exit Back Continue

Select the species or species group for which you need a recommendation

- Acacia axillaris
- Acacia pataczekii
- Acacia siculiformis
- Acacia ulicifolia
- Acacia uncifolia
- Acrotriche cordata
- Agrostis australiensis
- Agrostis diemenica
- Allocasuarina crassa
- Allocasuarina duncanii
- Alternanthera denticulata
- Ambuchanania leucobryoides
- Amphibromus fluitans
- Amphibromus macrorhinus
- Amphibromus neesi

At each of the subsequent screens, select the appropriate option at each question screen and click on the 'Continue' button until a recommendation is delivered. See the following

images for examples of questions you may encounter in the 'decision pathways' for each species;

A recommendation is delivered when all the questions along the pathway for a species have been answered. Recommendations are numbered and include a pathway trail as a subheading, which shows the decisions made along the pathway for each species. Use the scroll bar on the right hand side to view the entire wording.

GROUP 2: NATIVE FOREST SILVICULTURE - ACACIA AXILLARIS

Acacia axillaris is primarily found in the Midlands-Lake Leake area, but has an important outlying population at Mt Barrow.

The management objective for this species is to implement actions that will maintain the species across its range, with particular emphasis on maintaining an outlying population.

To achieve the management objective the following actions are recommended.

Mt Barrow area

- The extent of the population of *Acacia axillaris* within the FPP area must be surveyed and mapped (refer to [FPA Survey Guidelines](#)).
- Retain a minimum of 90% of the mapped population of *Acacia axillaris* within areas excluded from harvesting. This can be within and/or adjacent to the FPP area (e.g. extended streamside reserves, wildlife habitat clumps, etc.). The 90% threshold is arbitrary, intended to result in "most" of the mapped population being retained. It does not necessarily refer to the area extent and/or the number of individuals but rather to an ideal outcome.

Midlands-Lake Leake area

- No special management prescriptions are required.

In accordance with the procedures for the management of threatened species agreed between DPIIWE and FPA under section D3.3 of the Forest Practices Code the above is recommended to meet objectives for the management of threatened flora and/or fauna in areas covered by the Tasmanian forest practices system. The recommended management actions must be applied to the relevant operation/situation*, unless:

- alternative management actions are accepted by the FPA as a way of meeting the management objective for the species; or
- the actions recommended above together with the actions recommended by other relevant FPA planning tools individually or collectively exceed the duty of care thresholds in the Code. In such cases, unless the actions are to be achieved on a voluntary basis with the landowner, the FPA must seek further advice from the FPA to determine whether modified actions can be formulated to achieve the management objective for the species within the duty of care thresholds, or whether the matter may need to be addressed through other legislative mechanisms.

Further advice must be sought from the Forest Practices Authority if:

- endorsed or recommended actions cannot be implemented (for any reason);
- a variation is made to the Forest Practices Plan that affects threatened species not covered by the actions in the FPP; or
- additional threatened species values are identified in the FPP area.

If agreement on management prescriptions cannot be reached by the FPO and FPA specialists, the FPO must refer the case to the CFPO for a determination. If the applicant for the FPP is aggrieved by a decision to amend or refuse the FPP the applicant may lodge an appeal with the Forest Practices Tribunal pursuant to s.25 of the Forest Practices Act 1985.

**Note: Forest Practices Officers must ensure that the certified Forest Practices Plan includes all actions required for threatened flora and/or fauna. Appropriate wording must be included in the certified Forest Practices Plan. The recommended management action must be worded such that the action is clear to landowners and those responsible for implementing the FPP (e.g. contractor and supervisors). The recommendations delivered via the Threatened Species Adviser should be used to develop management prescriptions appropriate to the operation and incorporated into the FPP. Note that simply transferring all of the wording from the Threatened Species Adviser into an FPP will usually be inappropriate; selection and/or modification of phrasing is acceptable provided that the desired outcome is met.*

Recommendation accessed at:
 TPA version: 06/05/2019
 By: Dorothy Dinosaur
 Coupe: ZX012b

Print

Next

Previous

The recommendation can be printed by clicking on the 'print' button at the bottom of the screen. This should print both the recommendation and the audit details (name and coupe details). Alternatively the on-screen text can also be copied and pasted to other documents. The print function appears to work best when using the Google Chrome browser (rather than Firefox, Internet Explorer/Microsoft Edge or other alternative).

Step 3: Apply the recommendation

Forest Practices Officers must ensure that a certified forest practices plan includes all relevant actions required for threatened species. The recommendations delivered via the TSA should be used to develop management prescriptions appropriate to the operation and incorporated into the FPP. The recommended management action must be worded such that the action is clear to those responsible for implementing the FPP (e.g. contractor and supervisors). Note that transferring all of the wording from the TSA recommendation verbatim into an FPP may be inappropriate; selection and/or modification of phrasing is acceptable provided that the desired outcome is met. Further advice must be sought from the Forest Practices Authority if:

- endorsed or recommended actions cannot be implemented (for any reason)
- a variation is made to the FPP that affects threatened species, and the change is not covered by the FPP prescriptions or updated TSA recommendations (or they cannot be applied)
- additional threatened species values are identified in the FPP area after completing the biodiversity evaluation.

Function buttons

Exit button

The exit button is located on the lower left hand side of most TSA screens. Clicking on the exit button brings up a prompt to ensure the user wishes to exit the TSA, and then on confirmation, terminates a TSA session. A new session of the TSA can be started by clicking on the refresh button or by re-entering the initial web address. If using the 'exit' button to finish a session, the user will need to re-enter the details of the user and operation for any subsequent sessions.

Help button

The help button is available on the lower right hand side of most screens of the TSA. This may be useful if you want to read up on the background to the TSA, refer to the Agreed Procedures, look up an abbreviation or definition, find the habitat descriptions for a species, or find references for further reading. If you have a query that is not answered by the help files, contact the FPA for further assistance.

Back button

The back button is located on the lower right hand side of most screens. It will take the user back by one screen on each click. It is useful when the user accidentally inputs the incorrect decision pathway choice, and needs to re-enter it. It can also be used to get back to the species selection screen to select a new species once a recommendation has been delivered for a species.

Continue button

The continue button is used to advance to the next screen, usually once a selection has been made.

Print button

The print button only appears on a final recommendation screen. Clicking on this button should bring up a print preview, allowing the user to set the printing details and print the recommendation wording and audit details.

OK button

The ok button only appears at the bottom of the screen after a recommendation. It has an identical function to the 'same operation, different species' button in sending the user back to the species selection screen.

Feedback

The Forest Practices Authority and DPIPWE will appreciate any feedback from users on the *Threatened Species Adviser* – please direct comments to:

Biodiversity Program

Forest Practices Authority

30 Patrick Street

Hobart, TAS 7000

03 6165 4090

info@fpa.tas.gov.au

Appendix 1: Abbreviations

The following abbreviations are used within the Threatened Species Adviser and this document:

BVD Biodiversity Values Database –this integrated database and GIS mapping product delivers locality data for threatened fauna and flora species in a straightforward and spatial way. The BVD also provides information on threatened species ranges and habitat descriptions for use in site assessments.

CFPO Chief Forest Practices Officer

DAWE Commonwealth Department of Agriculture, Water and the Environment (previously known under various other names such as Department of the Environment and Energy, and Department of the Environment)

DPIPWE Tasmanian Department of Primary Industries, Parks, Environment and Water, previously known as DPIWE (Department of Primary Industries, Water and Environment) and DPIW (Department of Primary Industries and Water) and referred to as such in most documentation related to the present review (e.g. Forest Practices Code, old versions of the TFA, etc.) – DPIPWE is used throughout

EPBCA Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

FPA Forest Practices Authority

FPAC Forest Practices Advisory Council

FPB Forest Practices Board of the Forest Practices Authority but the abbreviation is most commonly applied to the previous name of the agency now referred to as FPA (see also FPU) and used in the present version of the TFA

FPC *Forest Practices Code 2020*, sometimes referred to as the *Code*

FPO Forest Practices Officer

FPP Forest Practices Plan

FPU First name of the entity now known as the FPA (usually seen in terms such as FPU Senior Zoologist and various historical documents)

FT Forestry Tasmania (became Sustainable Timber Tasmania in 2017, see **STT**)

IFS Inland Fisheries Service, in some older documents referred to as the IFC, Inland Fisheries Commission

NVA DPIPWE's Natural Values Atlas database (www.naturalvaluesatlas.tas.gov.au)

PAMA Public Authority Management Agreement established under the provisions of the TSPA

PSC Project Steering Committee for the review of the Threatened Species Adviser project

RFA Tasmanian-Commonwealth Regional Forest Agreement originally signed in November 1997 and re-signed in 2017

SAC Scientific Advisory Committee established under the TSPA

STT Sustainable Timber Tasmania

TFA Threatened Fauna Adviser (pre-cursor to the Threatened Species Adviser)

TFM Threatened Fauna Manual, originally published as hard copy as the Threatened Fauna Manual for Wood Production Forests in Tasmania (Forest Practices Board 2001) and subsequently converted to an online database on FPA's web site and referred to as the Biodiversity Values Database (FPA 2011)

TPA Threatened Plant Adviser

TSA Threatened Species Adviser

TSPA Tasmanian *Threatened Species Protection Act 1995*

UTAS University of Tasmania

Appendix 2: Glossary

All terminology used in the Threatened Species Adviser is in accordance with definitions as outlined in the Tasmanian-Commonwealth *Regional Forest Agreement* (1997), the *Forest Practices Code* (2020), ABARES *Australia's forests and forestry glossary* (2020), the *Threatened Species Strategy for Tasmania* (2000) and Tasmania's *Nature Conservation Strategy* (2001) where available.

Active nest (WTE and WBSE): A nest is called active if, during the breeding season, it has visible evidence of recent use. Evidence may include recent material added to the nest, a chick or an egg; or an adult bird observed close to the nest.

Aggregated retention (ARN): The main silvicultural system used to achieve the variable retention approach in tall, wet eucalypt forests.

Agreed procedures: The procedures agreed between the FPA and DPIPWE for the management of threatened species under the forest practices system, available on the FPA's website <https://www.fpa.tas.gov.au/>.

Biodiversity: a concept encompassing the diversity of indigenous species, their genes and the ecosystems occurring in a given region. It includes 'genetic diversity', which reflects the diversity within each species; 'species diversity', which is the variety of species; and 'ecosystem diversity', which is the diversity of different communities formed by living organisms and the relations between them. Biodiversity is the variety of all life forms – the plants, animals and microorganisms – their constituent genes, and the ecosystems they inhabit.

Biodiversity evaluations: Desktop and field assessment of a proposed operational area for biodiversity values.

Biodiversity evaluation sheets: A planning document for biodiversity values that must be completed by forest planners as part of the development of forest practices plans.

Biodiversity Values Database (BVD): A planning tool designed to assist forest planners to determine which threatened species or habitat requires consideration in the development of a Forest Practices Plan. The BVD was previously known as the Threatened Fauna Manual and then the Fauna Values Database and is formally recognised as an endorsed planning tool in Section D3.3 of the Forest Practices Code. The BVD can be accessed on the FPA website [here](#).

Buffer: An area of intact vegetation, usually surrounding a central point (e.g. nest site, den site, known flora site, watercourse) for a nominated distance.

Catchment: a natural area or basin of land from which water drains and flows to a watercourse, lake, wetland, estuary or sea.

CFEV project: Conservation of Freshwater Ecosystem Values (CFEV), a project initiative of the Department of Primary Industries, Parks, Water and Environment (DPIPWE). The project aim was to ensure that priority freshwater values are appropriately considered in the development, management and conservation of the State's water resources.

Chytrid fungus: A waterborne pathogen and potentially lethal frog disease. Chytridiomycosis is an infectious disease that affects amphibians worldwide. It has been implicated in the decline and extinction of frog species in NSW, Victoria and Queensland in the past 15 years but its origin and its true impact on populations remain uncertain. The fungus can be transferred through water, mud, plants and frog and tadpoles themselves.

Clearfelling: The complete removal of all trees on an area of land, where the objective is to harvest the old stand and replace it with a new, even-aged stand that has maximum access to light, nutrients and water.

Clearing: See **Conversion**.

Conversion: In the meaning of "clearance and conversion" as defined in s.3 of the *Forest Practices Act 1985*. It includes the clearance of native vegetation and its replacement with non-native vegetation, such as plantation forest (includes hardwood and softwood plantations), agricultural grasses and crops. It also includes clearance of native vegetation for urban and coastal sub-divisions, and other such purposes (i.e. non-forestry activities).

Core range: Encompasses the area, within the known range, known to support the highest densities of the species and/or thought to be of highest importance for the maintenance of breeding populations of the species.

Coupe: An area of forest that is planned for timber harvesting as a single unit. It may contain more than one silvicultural objective, such as a number of discrete gaps or clearfells or a combination of both.

Coupe Context Unit: On State forest may be a notional 400ha unit around the coupe, or on private property may be a private property boundary and surrounding land-use context.

Coupe dispersal: The dispersal of coupe operations in time and space in the landscape.

Crossing: A structure built on a watercourse, providing vehicular access and allowing free water movement. Stream crossings include bridges, culverts, fords and causeways. A culvert is a channel or conduit for water underneath a road.

DBH and DBHOB: DBH (diameter at breast height) and DBHOB (diameter at breast height over bark). The diameter of a tree trunk at breast height (1.3 metres above the highest point on the ground).

Decision-pathway: (in the TSA) the question-answer steps involved to arrive at a recommendation.

Disturbance: A natural or human-caused event that damages, destroys or removes some or all of the trees or other vegetation from an area of land. Disturbance can include planned and unplanned fire, wind, hail, snow, flood, pests and diseases, and forestry operations such as wood harvesting and thinning. Disturbance can also impact on the structure or physical properties of soil, or expose soil to erosion.

DPIPWE: Department of Primary Industries, Parks, Water and Environment.

Endemic: Confined to a particular area, so that for example, a Tasmanian endemic species occurs naturally only in Tasmania.

Ephemeral: (waterbody) a wetland, spring, stream, river, pond or lake that only exists for a short period following precipitation or snowmelt. They are not the same as intermittent or seasonal waterbodies, which exist for longer periods, but not all year round.

Environment Protection and Biodiversity Conservation Act 1999: The Environment Protection and Biodiversity Conservation Act 1999, which relates to the protection of the environment and the conservation of biodiversity, and for related purposes.

Environment includes:

- (a) ecosystems and their constituent parts, including people and communities; and
- (b) natural and physical resources; and
- (c) the qualities and characteristics of locations, places and areas; and
- (d) heritage values of places; and
- (e) the social, economic and cultural aspects of a thing mentioned in a, b, c or d.

Evaluation sheet(s): specific documents used for the evaluation and development of management prescriptions for natural and cultural values under the forest practices system. The evaluation sheets address biodiversity, earth sciences, cultural heritage, and visual landscape and are included in the FPA planning tools.

Fauna: Native animals, whether vertebrate or invertebrate, in any stage of biological development and includes eggs and any part of the animal.

Flora: The collective description for members of the plant kingdom. Flora include trees, shrubs, herbs, grasses, ferns and mosses.

Forest: An area containing trees as defined in S.3 of the *Forest Practices Act 1985*

Forest planner: A person who plans forestry operations within the forest practices system.

Forest practices: Defined as per the Tasmanian *Forest Practices Act 1985*, i.e:

(a) the processes involved in establishing forests, growing or harvesting timber, clearing trees or clearing and converting threatened native vegetation communities; and

(b) works (including the construction of roads and the development and operation of quarries) connected with establishing forests, growing or harvesting timber or clearing trees.

Forest Practices Act 1985: Provides for the administration of the forest practices system through the Forest Practices Authority.

Forest Practices Advisory Council (FPAC): Representative body of stakeholders that provide technical advice, established under the *Forest Practices Act 1985*.

Forest Practices Authority: An independent statutory body responsible for administering the Tasmanian forest practices system. The system regulates the management of forest and threatened non-forest vegetation on both public and private land.

Forest Practices Authority's Biodiversity Program: A research and advisory program of the FPA.

Forest Practices Code: A Code established under the *Forest Practices Act 1985* which prescribes the manner in which forest practices must be conducted in order to provide reasonable protection of the environment. The most recent version of the *Code* was released in 2020.

Forest Practices Officer: A person appointed under Sections 38 and 39 of the *Forest Practices Act 1985*.

Forest Practices (FPP) A plan for forest operations as specified in Section 18 of the *Forest Practices Act 1985*.

Forest practices system: The system established pursuant to the objective set out in schedule 7 of the *Forest Practices Act 1985*.

Forestry operation:

1. Work undertaken in the course of forest establishment and/or management for purposes including forest protection, public recreation, research, catchment protection and wood production.
2. Operational forest management activities related to wood production.
3. The planting of trees, the managing of trees before they are harvested, or the harvesting of forest products for commercial purposes, including any related land clearing, land preparation and regeneration (including burning), and transport operations.

Formal reserve: One of the following land categories: national park, nature reserve, conservation park, or other legislatively defined reserves for the purpose of conservation.

FPA Planning Guideline 2008/1: A framework to assist in planning so as to avoid the loss of significant habitat of threatened species through the conversion of native forest to other forms of land use (such as plantations, agriculture and infrastructure). The full title of the document is: *An Internal Planning Framework Developed by the Forest Practices Authority for the Purposes of Delivering Management Prescriptions through the Threatened Species Adviser to Avoid or Limit the Clearance and Conversion of Significant Habitat for Threatened Forest Species.*

Ground-based assessment: A field assessment of an area of interest

Habitat: The area, locality, site or particular type of environment, or any part of them, occupied or used by any flora or fauna.

Habitat fragmentation: The emergence of discontinuities (fragmentation) in an organism's preferred environment (habitat), causing population fragmentation. Habitat fragmentation can be caused by environmental processes that slowly alter the layout of the physical environment, or by human activity such as land conversion, which can alter the environment much faster.

Habitat tree: A tree that has features of particular value to fauna, frequently including tree hollows. The term 'habitat tree' is often used in reference to trees that are retained for the purpose of providing special habitat for fauna. The *Code* defines a habitat tree as a mature living tree selected to be retained in a coupe because it has featured of special value for wildlife (e.g. hollows). Habitat trees should be selected on the basis of size and the presence of hollows or the potential to develop hollows over time.

Hectare (ha): A metric unit of measurement equivalent to 10,000 m².

Hybridise/hybridisation: For plants, the process of crossing different breeds or cultivars of a single plant species, or crossing plants of different taxa (subspecies, species or genera). Hybridisation can occur naturally between closely related taxa.

Impeded drainage: See **Swamp**.

Informal reserve: Land protected through administrative instruments by public authorities.

Intact: It is a natural environment with no signs of significant human activity or habitat fragmentation, and of sufficient size to contain, support, and maintain the complex of indigenous biodiversity of viable populations of a wide-range of biota genera and species, and their ecological effects.

Interim recommendations: Management recommendations for threatened species that are being used to guide management decisions but have not yet been through a more formal endorsement process.

Karst: A landscape that results from the high degree of solubility in natural waters of the bedrock. Underground drainage, sinkholes and limestone caves are the best known components of karst.

Known locality/record/site: A location where a species has been previously recorded and/or a record on the NVA.

Known range (or actual range): is the area within which the species is most likely to occur, being the area of land within a minimum convex polygon of all known localities of the species. This term is synonymous with 'extent of occurrence' as referred to in the *Guidelines for the Eligibility for Listing under the Threatened Species Protection Act 1995* (DPIW 2009).

Landing: An area to which logs are pulled and where logs are loaded onto trucks, i.e. the working area for cross-cutting, sorting and loading of logs. This does not include areas used solely for stockpiling.

Listing statements: Brief documents providing distributional and biological data, recovery program information, actions carried out, actions required and illustrations. The quickest and most readily obtainable advice on threats and management of a particular species will be provided in Listing Statements. Listing Statements are used in place of Recovery Plans where the required recovery actions do not warrant preparation of a full recovery plan. Listing Statements are a formal requirement under the Tasmanian *Threatened Species Protection Act 1995*.

Local population: a group of individuals associated with a local area.

Machinery exclusion zone (MEZ): The zone (usually adjacent to a stream) where machinery is not permitted under the Forest Practices Code.

Management objective: The goal of a recommendation for a species or species group.

Maternal den: Den chosen and occupied by female for the rearing of young.

Maternal denning season: Time of year when young occupy the den site.

Mature forest: Forests are classified as mature when they are about 100 years old and begin to develop structural features typically found in older forests.

Mature habitat availability map: A map showing the distribution of mature habitat availability classes (high, medium and low) across the landscape.

Minimise: Term used deliberately to allow flexibility in management approaches on a case-by-case basis. The use of the term does not imply provision for ignoring a recommendation. Rather, it is used to encourage formal documentation by a planner demonstrating how a recommendation can be met, or if it cannot be met, how an alternative solution meets the intent of the initial recommendation. In most cases where a recommendation cannot be met, a planner would seek advice from the specialists at the FPA to develop an acceptable solution.

Monitoring – effectiveness: Monitoring that is used to determine whether the management specified has achieved its objective.

Monitoring – implementation: Monitoring that is used to determine whether prescribed management is actually conducted.

Native vegetation: is all native forest and native non-forest vegetation.

Natural Values Atlas (NVA): A database administered by DPIPWE, with a web-based interface that allows observations of Tasmanian flora and fauna to be viewed, recorded and analysed.

Nest (bird): A container or shelter made by a bird out of twigs, grass, or other material to hold its eggs and young.

Notification: Submission of a proposed forestry operation to the Forest Practices Authority's advisory program for advice on the management of a special value – usually involved completing and submitting evaluation sheets.

Off-reserve: Areas outside the reserve system.

Operation area: Area where forestry operations are planned within a Forest Practices Plan area.

Outlying population: A geographically distinct portion of a total population of species that is situated away from the bulk of the collective population.

Paddock tree: A tree around which the other components of a native vegetation community have been removed. Paddock trees may occur as isolated trees (e.g. single tree in a paddock, widely spaced single trees throughout a paddock, etc.) but also as small copses of trees (e.g. group of trees on a rocky patch of paddock) and narrow linear strips (e.g. patchy riparian strips, roadside strips, etc.). Although paddock trees usually occur in farmed paddocks, they can also be found along road reserves, in cemeteries, parks and urban areas.

Partial harvesting: Harvesting systems that include the retention of some trees e.g. advanced growth, seed tree, shelterwood, group and single tree selection – see *Native Forest Silviculture Technical Bulletin No. 5* for an overview of most silvicultural systems in Tasmania.

Permanent Native Forest Estate policy: A policy resulting from the Tasmanian *Regional Forest Agreement* that commits the state of Tasmania to maintenance of native forest communities at the state and bioregional levels.

***Phytophthora cinnamomi*:** *Phytophthora cinnamomi* is a root fungus that negatively affects many Australian plants, including more than 130 Tasmanian species. It can devastate drier forest and non-forest communities in lowland areas of Tasmania.

Photo-interpretation (PI): A technique to classify and map Tasmania's native forests by stereoscopic interpretation of aerial photographs which was developed in the late 1940s to facilitate systematic forest management.

Planning tool: An instrument to deliver information to forest practitioners on the approach to management of a species value in areas covered by the forest practices system.

Planning unit: An area considered in planning for forestry operations, which can be at any one of a number of scales. For example, a 'planning unit' may equate to an FPP area, single coupe, an entire property, or a forest block.

Plantation: Intensively managed stand of trees of either native or exotic species, created by the regular placement of seedlings or seeds. Commercial plantations are managed for the purpose of commercial wood production.

Plantation management: Any activity associated with the establishment, maintenance and harvesting of a plantation, including roading, cultivation, pest management, pesticide application, thinning, harvesting, etc.

Plantation operation: Harvesting, thinning and reforestation of plantations. See **Plantation**.

Potential habitat: All habitat types within the potential range of a species that are likely to support that species in the short and/or long-term. It may not include habitats known to be occupied intermittently (e.g. occasional foraging habitat only). Potential habitat is determined from published and unpublished scientific literature and/or via expert opinion. The description of potential habitat for each species is included in the BVD and can also be found on the FPA website.

Potential range: Includes the known range, but also includes the area within which the species has not been found but may occur based on environmental conditions.

Private land: A land tenure arrangement where the land is permanently owned and not leased.

Project Steering Committee (PSC): Part of the project governance framework. The PSC may have a number of roles and responsibilities, such as approving project direction and expenses, ensuring project targets are met and resolving conflict.

Proposed FPP area: refers to an area under application for a Forest Practices Plan. For the ease of readability in the recommended management actions delivered via the TSA, the term is usually simplified to “FPP area” or “FPP” (as applicable) but this does not imply that the advice confers approval of the “proposed” FPP. Note that the recommended management actions may require modifications to an area proposed for operations under an FPP, such that the proposed area is modified in its extent. In addition, constraints may be imposed on activities outside the proposed FPP area (e.g. seasonal exclusion zones, etc.).

Public land: Land as defined in Section 4 of the *Public land (Administration and Forests) Act 1991a* (Tas.) and land owned or leased by the Commonwealth.

Quarry Debris: Loose natural material consisting especially of broken pieces of rock and/or surface material (topsoil and organic fragments), created as a result of quarry activities.

Recovery Plan: A plan made under section 25 of the *Threatened Species Protection Act 1995*, or under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*, for any species of flora or fauna that is under threat of extinction.

Range boundary: A boundary encompassing the area in which a species is known to or could potentially occur. See definitions for potential, known and core ranges.

Reforestation: Natural or intentional re-stocking of forests that have been depleted or deforested.

Regeneration burn - high intensity (slash burn): A planned burn conducted under weather and fuel conditions that promote a fire of sufficient intensity to consume fuels for the purpose of forest regeneration or plantation establishment.

Regional Forest Agreement (RFA): Twenty year plans, signed by the Australian and certain State governments, for the conservation and sustainable management of certain areas of Australia's native forests.

Remnant vegetation: The native vegetation remaining from the 'original' forest or non-forest vegetation in a landscape after land clearance/alteration. A remnant can be of any size or condition, including individual trees, both live and dead. Remnants are generally patches at least one hectare in size.

Reserves: An area of land formally or informally set aside for specified purposes. Formal reserves have been declared by the Governor. Informal reserves have been created through administrative instruments by public authorities, but the term may also include wildlife habitat strips, and other areas where harvesting activities are specifically excluded by management prescriptions. See **Formal Reserve**.

Riparian: Pertaining to the banks of streams, rivers or lakes.

Rocky outcrop: An outcrop or rocky outcrop is a visible exposure of bedrock or ancient superficial deposits on the surface of the Earth. Includes rock plates, large boulders, cliffs and scree fields.

Roost site: A perch on which birds rest or sleep.

Scientific Advisory Committee (SAC): The establishment of the Scientific Advisory Committee (threatened species) is provided for under section 8 of the *Threatened Species Protection Act 1995*.

Significant habitat: Habitat within the known range of a species that (1) is known to be of high priority for the maintenance of breeding populations throughout the species' range and/or (2) conversion, of which, to non-native vegetation is considered to result in a long-term negative impact on breeding populations of the species. It may include areas that do not currently support breeding populations of the species but that need to be maintained to ensure the long-term future of the species. Significant habitat is determined from published and unpublished scientific literature and/or via expert opinion. The description of significant habitat for each species included in the BVD can be found on the FPA website under the 'habitat descriptions' tab.

Sub-population: An identifiable fraction of a population (i.e. spatially disjunct) of a flora or fauna species.

Supporting habitat: The habitat, associated with known localities, which is integral to the long-term survival of a known record of a species.

Silvicultural: The science and art of managing the establishment, composition and growth of forests.

Silvicultural systems: A regime of operations applied to a forest to produce or enhance forest values such as wood production, water yield, wildlife habitat, soils

conservation and landscape aesthetics. In wood production forests a silvicultural system normally comprises a harvesting operation in conjunction with a regeneration treatment.

Snig tracks: A track along which logs are pulled from the felling point to a nearby landing.

Special Management Zone (SMZ): A land classification within Sustainable Timber Tasmania Management Decision Classification (MDC) system that delineates areas to reflect additional management requirements for special values and uses (e.g. areas of high fauna or flora values such as habitat of threatened species).

Species: A population or group of individual flora or fauna that interbreed to produce fertile offspring or that possess common characteristics derived from a common gene pool.

State forest: Forest on public land that has been designated multiple-use forest by Parliament, under the *Forest Management Act 2013*. This land, which includes purchased land, is managed by Sustainable Timber Tasmania.

Stream class: Relating to size of the stream catchment, as follows (from the *Forest Practices Code*):

- Class 1: rivers, lakes, artificial storages (other than farm dams) and tidal waters – generally those named on a 1:100,000 topography map;
- Class 2: Creeks, streams and other watercourse from the point where their catchment exceeds 100 ha;
- Class 3: watercourses carrying running water most of the year between the points where their catchment is from 50-100 ha;
- Class 4: all other water courses carrying water for part of all of the year for most years.

Stream-side reserves: All land within a minimum horizontal distance specified in the *Forest Practices Code* from the banks of a Class 1, 2, 3 or 4 watercourse.

Swamp: an area of land more than 400 m² which has mainly waterlogged (poorly drained or very poorly drained) soils with peaty topsoils at least 20 cm thick, or peaty for more than half the soil depth to 1 m, that are usually saturated to the surface for long times every year and over most of its area supports terrestrial vegetation typically adapted to very wet environments including anaerobic soil conditions. Synonyms: marsh, wetland, bog.

Swift Parrot Important Breeding Area (SPIBA): Swift Parrot important breeding areas that are known or suspected to have supported a large portion of the Swift Parrot breeding population in any given year.

TASVEG: a Tasmania-wide vegetation map produced by the Tasmanian Vegetation Monitoring and Mapping Program (TVMMP), built upon and incorporating the original Regional Forest Agreement mapping of forest vegetation communities, as well as World Heritage Area mapping. TASVEG is continually revised and updated.

Technical notes: Supplementary information and technical explanation for Forest Practices Officers on commonly encountered fauna and flora management issues in production forests. Technical notes are advisory guidelines and do not constitute additions/alterations to the *Forest Practices Code*.

Threatened species: includes all species listed on Schedules 3, 4 and 5 of the Tasmanian *Threatened Species Protection Act 1995* and/or schedules of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Threatened Species Adviser (TSA): The Threatened Species Adviser is a decision-support system developed by the Forest Practices Authority, in consultation with DPIPWE, specialists and the forest industry, to deliver management recommendations for forest-dependant threatened species in wood production forests. The threatened fauna adviser (TFA) has management prescriptions for threatened animal species, whilst the threatened plant adviser (TPA) has management prescriptions for all threatened flora species.

Threatened Species Protection Act 1995: An Act to provide for the protection and management of threatened native flora and fauna and to enable and promote the conservation of native flora and fauna.

Threatening process: Any process that, if continued, would pose a threat to the natural survival of any species of native flora or fauna.

Trees: are defined as per the Tasmanian *Forest Practices Act 1985* i.e:

(a) any woody plants with a height or potential height of 5 metres or more, whether or not living, dead, standing or fallen, that are –

(i) native to Tasmania; or

(ii) introduced into Tasmania and used for the processing or harvesting of timber; and

(b) tree ferns.

Uneven-aged forest: a forest composed of trees in a mosaic of various ages.

Unstable areas: sites susceptible to one of the forms of mass soil movement or accelerated soil erosion as a result of the interaction of such factors as steepness, soil properties, parent and surface geology and position in the landform profile.

Variable Retention (VR): An umbrella term that describes an approach to harvesting and silviculture. VR is a relatively new silvicultural system that retains forest structural elements for at least one rotation in order to preserve environmental values associated with structurally complex forests.

Wildlife habitat clump: An area containing habitat trees set aside in a harvesting coupe to aid in the maintenance of species habitat diversity.

Wildlife habitat strip: Strips of uncut forest 100 metres in width, based on streamside reserves but including links up slope and across ridges to connect with watercourses in adjoining catchments.

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Version control

Version	Date	Author(s)	Summary of changes
0.1	2012	Dan Livingston?	Draft 'how to use' notes in TFA help file
1.0	March 2014	Dydee Mann	Incorporation of notes into user manual document, addition of screen shots, logos, web links, photos.
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Stages required for release outside FPA

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