

Tree and hollow replacement guidelines

October 2023



Acknowledgement of Country

Transport for NSW acknowledges the traditional custodians of the land on which we work and live.

We pay our respects to Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of NSW.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation's First Peoples followed for tens of thousands of years.

Transport for NSW is committed to honouring Aboriginal peoples' cultural and spiritual connections to the land, waters and seas and their rich contribution to society.



Document control

Document owner	Senior Specialist (Biodiversity), SER
Consultant	N/A
Approved by	Executive Director, Environment and Sustainability
Branch / division	Environment and Sustainability / Safety, Environment and Regulation
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Versions

Version	Date	Amendment notes
1.0	Jul 2022	These guidelines (EMF-BD-GD-0129) are referred to as the 'The Tree and Hollow Replacement Program: An implementation plan for payments to and from the Transport for NSW Conservation Fund (2022)' in the Biodiversity Policy.
1.1	October 2023	Addition of section 3.4.4 Ineligible conservation measures and requirements to consult with relevant asset manager and/or property team in developing fund proposals. Edits made at the recommendation of the TCF Steering Committee. Amendment to section 2.3 adding link to Bionet native species growth form data

Related policy and supporting information

- [Transport Environment and Sustainability Policy](#)
- [Transport Biodiversity Policy](#)
- [Transport Sustainability Plan](#)
- [Environment & Sustainability Management Framework](#)

The following resources support this document:

- EMF-BD-GD-0129-TT1_Tree and hollow replacement plan template (Resource 1)
- EMF-BD-GD-0129-TT2_Transport Conservation Fund proposal template (Resource 2)
- EMF-BD-GD-0129-TT3_Making payments to the Transport Conservation Fund Form (Resource 3)

This document should be read in conjunction with:

- Biodiversity Assessment Guidelines (EMF-BD-GD-0010)

Contacts and further information



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Internal Transport users: [Biodiversity \(sharepoint.com\)](#)

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- Resource 1: EMF-BD-GD-0129-TT1 Tree and hollow replacement plan template
- Resource 2: EMF-BD-GD-0129-TT2 TfNSW Conservation Fund Proposal Form
- Resource 3: EMF-BD-GD-0129-TT3 Making payments to the TfNSW Conservation Fund

1. Introduction

1.1 Why is vegetation within infrastructure corridors important?

Vegetation within infrastructure corridors, including road reserves, hold significant biodiversity values that can form critical habitat corridors across fragmented landscapes and support habitat resources (e.g., tree hollows) that are rare in the surrounding landscape.

Due to the extent of historical land clearing over much of NSW, roadsides in many areas support the only remaining examples of the original vegetation. Vegetation quality varies from biologically diverse remnants in good condition to highly-disturbed areas in poor condition. Significant opportunities exist to repair and reconnect habitats within infrastructure corridors.

The social and functional benefits of maintaining vegetation within infrastructure corridors are many and include:

- Reducing the velocity of water runoff, thus reducing scour and erosion of batters and embankments.
- Providing shade keeps the road cool for transport and road users, particularly pedestrians and cyclists, and by providing shade at rest stops for travellers.
- Preventing the establishment of weeds in the roadside and within adjacent land. Roadsides heavily infested with weeds can be a threat to adjacent properties and may increase wildfire risk.
- Contributing to the scenic quality of the landscape and its rural character.
- Defining curves, creating a safer driving environment.
- Providing valuable shelter for livestock and crops in adjacent land.
- Providing habitat for predatory insects ('farmers helpers') that are commonly found on native vegetation.
- Helping to lower local water tables that may affect the road formation and pavement.

Trees both native and exotic, can be highly valued by people due to their beauty, function, historical, biodiversity or/and cultural significance. Examples of these include rows of trees planted to commemorate fallen soldiers, visually prominent trees that provide local landmarks and trees that have cultural values for Aboriginal people such as scar trees, bush food, medicine plants and other resources. These trees are also subject to replacement requirements subject to appropriate environmental impact assessment and community consultation.

1.2 Policy context

In December 2021, Transport adopted a [Sustainability Plan](#) which commits the organisation to achieving protecting and enhancing biodiversity as a result of our activities.

This commitment is supported by the [Transport Biodiversity Policy](#) which provides the framework to protect and enhance biodiversity across TfNSW with the goal of achieving no net loss of biodiversity. The Policy commits TfNSW to replace individual trees and hollows removed by TfNSW activities subject to certain exemptions for low-risk activities.

This plan sets out how TfNSW will implement this requirement. This document does not address the environmental impact assessment or community consultation required to inform decision making.

The Biodiversity Policy also requires that biodiversity offsets or conservation measures are provided for impacts to biodiversity above certain area thresholds. Separate guidelines address the implementation of these area thresholds.

1.3 Who should read this plan?

This plan should be read by TfNSW staff involved in infrastructure development and maintenance activities involving the removal of trees. The plan should be considered during the strategic phase of project development and as part of the environment impact assessment process.

This plan does not apply to activities undertaken by Sydney Metro, Sydney Trains, NSW Trains and State Transit or to the land divestment activities of the Transport Asset Holding Entity.

1.4 Exclusions

In accordance with the Biodiversity Policy, the following low-risk activities are excluded from the requirement to provide replacement trees and hollows:

- Exempt development under the Transport and Infrastructure SEPP including emergency works and projects requiring development consent under Part 4 of the EP&A Act.
- Works to remove a traffic hazard on or overhanging a public road.
- Works within the disturbed zone or to maintain required operational clearances.
- Works within areas that are reasonably likely to naturally regenerate.
- Non-native trees without amenity value

In addition, the following circumstances have also been excluded from the requirement to provide replacement trees and hollows:

- Removal of trees that have been otherwise offset including for projects that have triggered the NSW Biodiversity Offset Scheme thresholds or the TfNSW biodiversity offset thresholds. Trees and hollows that have not been offset via these processes (eg trees that are not part of a recognisable plant community type or are below the offset area thresholds) are required to be replaced.
- Any project approved or determined or where an REF has been exhibited prior to the commencement of the [Transport Biodiversity Policy](#).

Please refer to the glossary for definitions of key terms.

2. Tree and hollow replacement requirements

2.1 Introduction

The Biodiversity Policy requires that TfNSW replace trees and hollows removed as a consequence of our activities unless excluded (see Section 1.4). Planning for this requirement commences at the earliest stage of project development and will be ultimately documented in the environmental impact assessment prepared for the project and implemented via the CEMP (or similar) prepared for the project.

Consistent with the Biodiversity Policy, trees and hollows can either be replaced within the project boundary or on nearby land with the consent of the owner or, where this is not feasible, payment can be made to the TfNSW Conservation Fund. E&S will then use the funds collected to deliver conservation measures that deliver landscape scale outcomes in accordance with this plan (See Section 3).

The process of identifying tree and hollow requirements applicable to a project is provided at Figure 1. The following sections provide more detail on each of the steps in flowchart.

2.2 Options to avoid and mitigate impacts to trees

Avoiding tree removal through careful design is a crucial first step in the process. Features of particular significance include large hollow bearing trees, trees providing the only available opportunity for connectivity across the landscape, weed free areas of native vegetation and any areas with records of threatened species and ecological communities plus all trees with Aboriginal and non-Aboriginal heritage value.

Mitigation measures can also reduce the impact of tree removal on biodiversity as recommended by the TfNSW Biodiversity Guidelines. Any proposed removal of trees with potential Aboriginal heritage value requires consultation with the relevant Aboriginal Cultural Heritage officer prior to removal.

2.3 Determining replacement requirements

Where removal cannot be avoided, the number of native and amenity trees and individual hollows to be removed must be counted and used to calculate the number of replacement trees and hollows as per Table 2-1. This should be undertaken by or verified by environment staff in consultation with the project manager. This requirement does not apply to trees within areas that otherwise require offsetting under the TfNSW offsetting guidelines (see Section 1.4 for a full list of exclusions).

A tree is defined as per the Australian Standard 4970-2009 as being a long lived woody perennial plant greater than (or usually greater than) 3m in height with one or relatively few main stems or trunks (or as defined by the determining authority). Where uncertainty exists as to whether a native flora species should be considered a tree or not, the ['BioNet Native Species by Growth Form data'](#) can be used to identify native species that are classified as a tree growth form.

Pre-clearing ground based hollow surveys can be used to identify the number of hollows likely to be impacted.

Hollow bearing trees include living and dead native species that have at least one hollow (DPIE 2020 BAM Operational Manual Stage 1). A tree is considered to contain a hollow if:

- a) the entrance can be seen
- b) the hollow appears to have depth (i.e., solid wood cannot be seen beyond the entrance)
- c) the hollow is at least one metre above the ground.

Trees must be examined from all angles using binoculars. Tree size is determined by measuring the diameter at breast height (DBH), which is taken around the largest trunk (if there are multiple trunks/stems) over top of the bark at a height of 1.3 metres above the ground. It is recommended that tree counting surveys are undertaken using a specific DBH measuring tape. Only living trees are to be counted. [See Appendix A].

The results of this calculation are to be included as a safeguard in the Review of Environment Factors (REF) or similar prepared for the project or a commitment made in the REF to calculate the requirement in accordance with this Plan. **Appendix A** provides an example field sheet to collect data on tree and hollow removal.

Table 2-1: Tree and hollow replacement requirements

Tree size ¹	Tree replacement requirement
Very large tree (DBH ² greater than 100cm)	Plant minimum 16 trees
Large tree (DBH between 50cm and 100cm)	Plant minimum eight trees
Medium tree (DBH greater than 20 cm, but less than 50cm)	Plant minimum four trees
Small tree (DBH greater than 5cm, but less than 20cm)	Plant minimum two trees
Hollow replacement requirement	Provide three artificial hollows for every occupied hollow removed ³

¹ For trees with multiple stems/trunks, calculate the payment required for the largest stem DBH. Only one stem requires replacement/payment.
² DBH – Diameter at breast height.
³ Assume 20% occupancy rate. For every five hollows identified (or where less than five hollows will be impacted), assume one hollow will be occupied and requires replacement. Where hollows are inspected during the clearing process, actual occupation can be used as the basis for the replacement requirement.

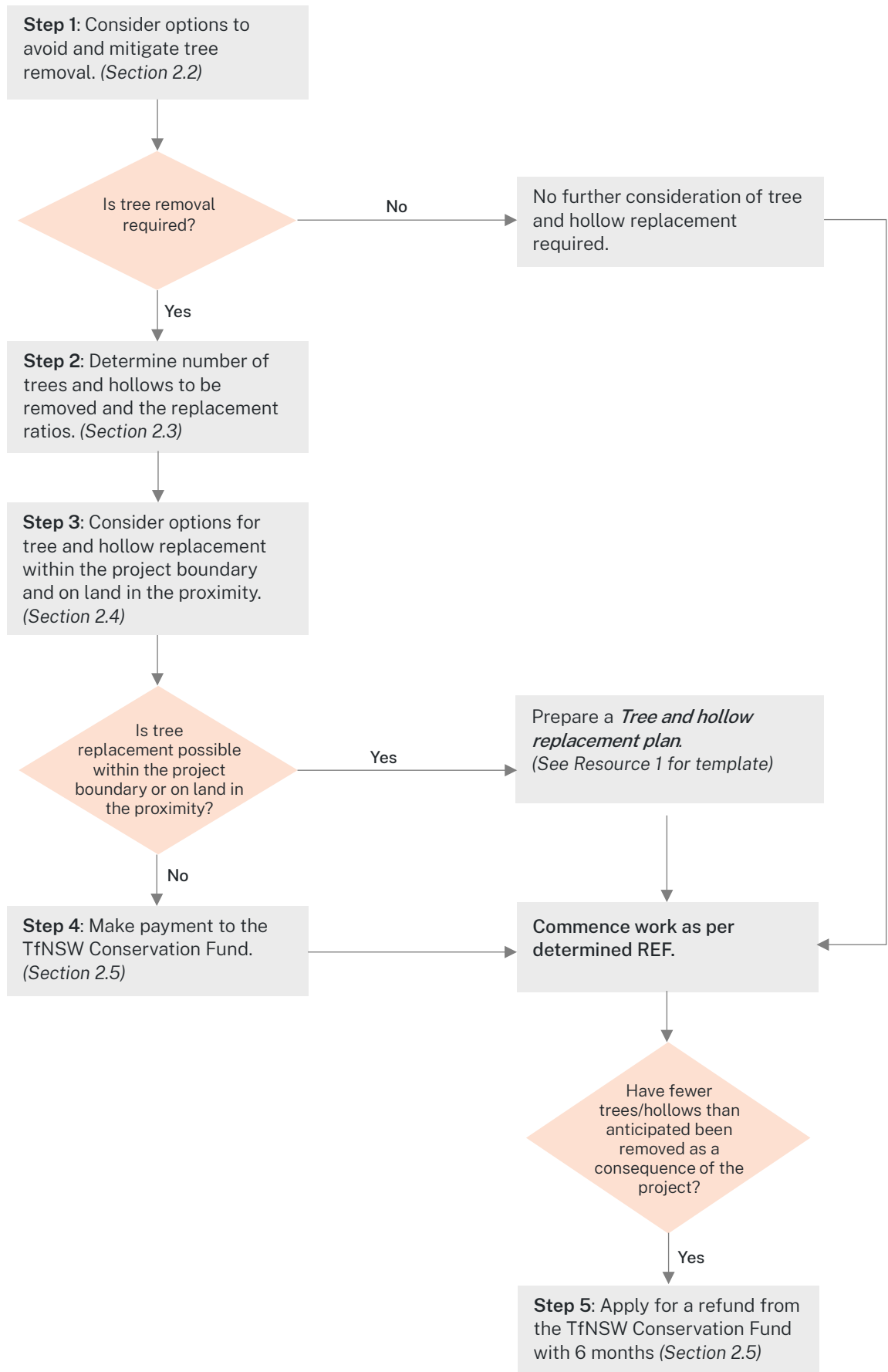


Figure 2-1: Tree and hollow replacement flowchart

2.4 Considering options for local tree and hollow replacement

The next step in the process is to determine whether the project is able to deliver the required tree and hollow replacement within the project boundary or on land adjacent or close to the project with landowner's consent (including travelling stock reserves, crown reserves, council managed reserves and private land).

This option requires the preparation of a *Tree and Hollow Replacement Plan* or similar. A template has been prepared to aid in the preparation of the THRP (See Resource 1) which can be modified as needed. This plan can be prepared as part of the Construction Environmental Management Plan (CEMP), or similar, being prepared for the project. This should be prepared by a person suitably qualified in rehabilitation and restoration techniques and requires review by environment officers. Where replacement is proposed on lands in proximity to the project, then consultation with the relevant land manager is required or an agreement made with the relevant local Council or Local Land Services to undertake this consultation. Implementation should involve a three-year period of monitoring and maintenance for replanted trees and be undertaken in accordance with relevant guidelines.

Where tree and hollow replacement cannot be accommodated locally or can only be partially accommodated, payment must be made to the TfNSW Conservation Fund in accordance with section 2.5.

2.5 Determining TfNSW Conservation Fund payment

Once opportunities for delivery of tree and hollow replacement within the project boundary or on land in the proximity have been determined (as per section 2.4), any remaining requirement can be met by transferring funds into the TfNSW Conservation Fund as per the rates set out at Table 2-2. Transfer of funds to the TfNSW Conservation Fund must occur prior to commencement of works.

Table 2-2: Tree and hollow fund contributions

Tree size	Contribution required per tree/hollow
Very large tree (DBH greater than 100cm)	\$2500
Large tree (DBH between 50cm and 100cm)	\$1000
Medium tree (DBH greater than 20 cm, but less than 50cm)	\$500
Small tree (DBH greater than 5cm, but less than 20cm)	\$125
Hollow	\$500

2.6 Making payments and arranging refunds from the TfNSW Conservation Fund

Payments are made by completing the form at Resource 3 and emailing it to:
ConservationFund@transport.nsw.gov.au.

In some situations, further design changes may reduce the number of trees or hollows required to be replaced as a consequence of the project. In such cases, projects may apply for a refund from the TfNSW Conservation Fund within 6 months of payment using the same form. Information detailing the final clearing footprint and numbers of trees cleared must be included in the application. Applications for refunds must be reviewed by the E&S Regions/Sydney environmental teams.

2.7 Reporting

SER Environment Operations manage environmental performance monitoring on behalf of TfNSW including end of month incident reporting and quarterly biodiversity offset reporting.

From 1 August 2022, embedded teams will be asked to complete the Tree and Hollow Replacement Database which records details of projects triggering tree and hollow replacement requirements under the Biodiversity Policy.

An entry should be made to this database each time a project is REF determined with tree and hollow replacement requirements. Entry to this database does not achieve a payment to the TfNSW Conservation Fund – See Section 2.6.

Appendix A provides a form that can be used in the field to collect the information about trees and hollows that are planned for removal.

3. TfNSW Conservation Fund

3.1 Introduction

The Transport Biodiversity Policy establishes the TfNSW Conservation Fund as an option for projects to achieve tree and hollow requirement requirements where delivery is not possible within project boundary or land in proximity to the project.

The TfNSW Conservation Fund is administered by Environment and Sustainability (E&S) on behalf of TfNSW. This section sets out how E&S will administer the TfNSW Conservation Fund in partnership with other areas within TfNSW.

3.2 Objective of the program

The objective of the TfNSW Conservation Fund is to support projects to conserve and repair native habitats within linear reserves and landscape habitat corridors and to support research activities to help us achieve this; with the overall aim of conserving a diverse, connected, thriving environment across the linear reserves and habitat corridors of NSW.

3.3 Governance

Oversight of payments into and from the TfNSW Conservation Fund will be undertaken by the TfNSW Conservation Fund Steering Committee (the Committee) comprising:

- Two representatives from E&S.
- A representative from Regional and Outer Metropolitan.
- A representative from Greater Sydney.
- A representative of Infrastructure and Place.
- A representative of Customer Strategy and Technology.

The Committee will meet on a six-monthly basis to consider proposals for future expenditure and to evaluate the implementation of the previous funding round. Funding proposal may be considered on an ad-hoc basis by the Committee as required.

Secretariat support to the Committee will be provided by Senior Specialist (Biodiversity) E&S.

3.4 Eligibility

3.4.1 Delivery partners

The Fund will support projects undertaken by:

- TfNSW
- Local Government
- Private individuals under a program managed by Local Lands Services or a recognised conservation organisation.
- NSW National Parks and Wildlife Service
- Other State Agencies
- Aboriginal landowners
- Tertiary institutions or a recognised research organisation.

3.4.2 Location

TfNSW projects would be located within TfNSW operational lands (outside the disturbed zone) or TfNSW residue lands (subject to 3.4.5 below).

External projects would be located:

- Within existing infrastructure corridors (including roadside reserves) managed by Local Government.
- Within travelling stock reserves and other linear reserves managed by Local Land Services.
- Land reserved for a conservation or related purpose under the *Crowns Land Act 1989*.
- On land within recognised landscape scale corridors.
- Within marine and freshwater environments.
- On freehold land owned by a Local Aboriginal Land Council and crown land under Aboriginal land claim with the agreement of current landowner.

3.4.3 Eligible conservation measures

The following conservation measures are eligible for funding:

1. biodiversity conservation measure delivered as part of a TfNSW project that is not related to the project impact
2. weed control
3. vegetation rehabilitation activities
4. habitat augmentation including hollow creation
5. tree-planting
6. fencing
7. bank stabilisation
8. instream restoration and repair
9. marine conservation activities including habitat creation and restoration projects
10. ecological fire management and cultural burning
11. other activities that support Aboriginal people care for Country
12. mitigation of vehicle strike
13. activities required to support achieving these activities
14. research initiatives relevant to these activities

3.4.4 Ineligible conservation measures

The following activities are not eligible for funding:

1. activities required to mitigate the impact of a TfNSW project on biodiversity, for example to fund a mitigation measure specified in an REF or EIS.
2. activities required to remediate, maintain, operate, decommission or repair biodiversity related mitigation measures installed as part of a project approved or determined prior to 1 August 2022 **unless** the funding is seed funding facilitating transition to a long term funding arrangement or agreement with a third party, for example to rehabilitate neglected habitat created by a past project to a point that ongoing management can be routinely delivered.
3. activities involving the creation of, or changes to, an asset on TfNSW operational land with long term maintenance obligations **unless** the area proposing the project has consulted with the relevant TfNSW asset manager.
4. activities on TfNSW residue land **unless** the area proposing the project has consulted with the relevant TfNSW Property team. This will include an assessment of whether a conservation covenant is required to protect the conservation measures post divestment and an assessment of whether the actions will devalue

the property and require payment from the TCF to Property to cover this loss on divestment. Such assessments will be based on the advice of independent valuer at the time the project is approved for funding by the TCF and paid by the TCF at the time of divestment.

3.5 Funding available

A maximum of \$300K is available for projects up to three years.

3.5.1 Key stages

The key stages leading to the final award for funding are described in Table 3-1 and shown in Figure 3-1.

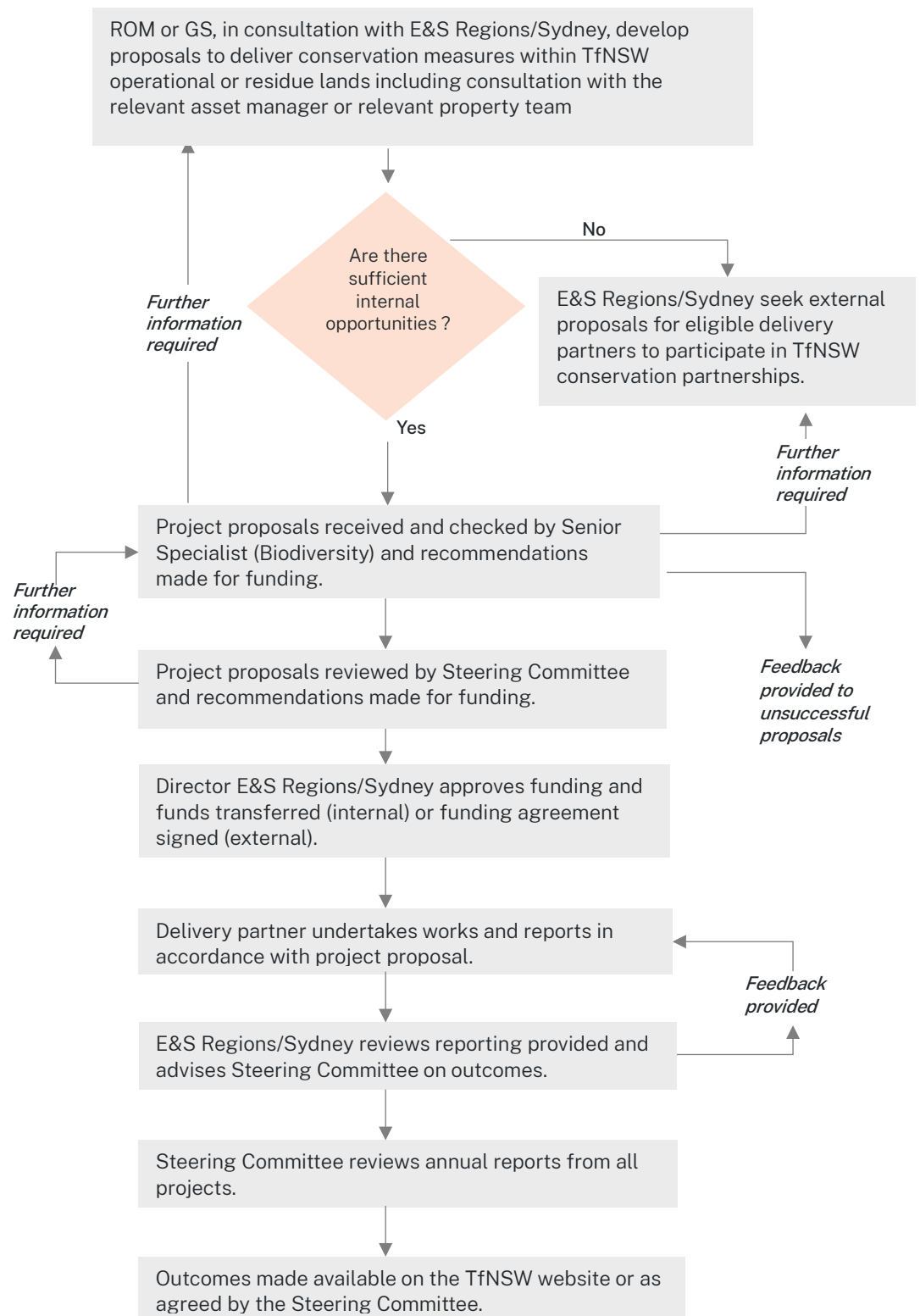


Figure 3-1: Stages in assessment of funding proposals

Table 3-1: Stages in assessment of funding proposals

Stage	Description	Responsibility
1	Development of proposals (see Resource 2) to undertake conservation measures on TfNSW-operational or residue lands in accordance with proposal template and in consultation with the relevant asset manager or property team.	ROM in consultation with E&S Regions/Sydney
2	Where insufficient proposals are generated via Stage 1, seeking external proposals from eligible organisations. SER Regions/Sydney are expected to submit proposals commensurate with the amount of funds flowing to the Transport Conservation Fund from their respective areas.	E&S Regions/Sydney
3	Eligibility and technical assessment to determine whether the applicants are eligible, and the proposal template has been completed and recommendation to support or otherwise	Senior Specialist (Biodiversity)
4	Final review and recommendations for funding	Steering Committee
5	Approve transfer of funds (internal) or funding agreement (external)	Director, E&S, Regions/Sydney
6	Project implementation oversight including reporting and evaluation	E&S Regions/Sydney

3.6 Technical assessment

Proposals from all eligible delivery partners will be assessed on a rolling six-monthly basis and in accordance with Table 3-2 by Senior Specialist (Biodiversity) and made to the Steering Committee in relation to funding. Any unsuccessful proposals will be provided feedback and advised promptly. Proposals may be considered outside this program with the agreement of the Committee.

Table 3-2: Assessment criteria

Stage	Description	Maximum score
Relevance	The proposal involves an eligible conservation measure within an eligible location as per Section 3.4. For research, consideration will be given to research that advances our understanding of: <ul style="list-style-type: none"> restoration practices transport relevant mitigation and management strategies habitat creation and augmentation techniques 	20
Benefit and impact	Consideration will be given to the extent to which the project: <ul style="list-style-type: none"> will restore habitat connectivity and protect areas of high conservation value supports Aboriginal communities to care for and connect to Country addresses long-standing issues of community concern 	20
Sustainability	Consideration will be given to: <ul style="list-style-type: none"> technical, organisations and financial capabilities of the delivery partner necessary licences, permits and approvals available 	20

	<ul style="list-style-type: none"> likely future ongoing performance of the measure scope for future scaling up and replication complementarity with other conservation programs including likelihood of duplication 	
Effectiveness	<p>Consideration will be given to:</p> <ul style="list-style-type: none"> the extent the project will achieve its expected objectives and outcomes how realistic and comprehensive are the planned actions the results framework provided and performance indicators proposed 	20
Efficiency	<p>Consideration will be given to whether:</p> <ul style="list-style-type: none"> budget proposals reflect proposed activities budget proposals are realistically estimated management and administration costs as a percentage of total expenditure 	20
Score		100

3.7 Reporting and evaluation

Each funded project will have reporting and evaluation requirements.

Each E&S region is responsible for review of these reports and annual reporting to the Steering Committee annually on progress and achievements for each project funded.

Fund balances will be reported quarterly by the Secretariat to the SER Senior Leadership Team and the Steering Committee.

4. Definitions

Term	Definition
Amenity tree	Trees, both native and exotic, that are valued by people due to their beauty, function, historical, biodiversity or cultural significance.
Artificial hollow	Artificial hollows, including hollows carved into a tree, nest boxes attached to trees and salvaged hollows can be used to provide supplementary breeding habitat and shelter for hollow-dependent fauna where hollows have been removed. When designed, built, installed and monitored correctly artificial hollows can provide an alternative to natural fauna habitat.
Conservation measure	<p>Activities voluntarily undertaken by TfNSW in addition to BOS or EPBC Act requirements to address the ongoing cumulative impacts of TfNSW activities on biodiversity and local environments. Conservation measures are different to biodiversity conservation actions under the BOS.</p> <p>Conservation measures are typically delivered locally and include weed control, vegetation rehabilitation activities, habitat augmentation, tree-planting, fencing, bank stabilisation, instream restoration and repair, ecological fire management, vehicle strike mitigation or supporting research initiatives by a recognised tertiary institution.</p>
Disturbed zone	Has the same meaning as the <i>Routine and Minor Works Procedure</i> and applies to road activities only.
E&S	Environment and Sustainability, Safety Environment and Regulation, Transport for NSW
Feasible	<p>For biodiversity offset requirements, offset delivery is always considered feasible due to the ease of payment to the BCT's Biodiversity Conservation Fund (BCF).</p> <p>For tree and hollow replacement requirements, feasibility relates to practical considerations and involves the consideration of the following preference hierarchy:</p> <ol style="list-style-type: none"> 1. Modifying works to avoid impacts and reduce requirement. 2. Tree and hollow replacement on land within the infrastructure corridor in proximity to the proposal triggering the requirement. 3. Tree and hollow replacement on land in proximity to the proposal triggering the requirement. 4. Making a contribution to the TfNSW Conservation Fund.
Habitat tree	Habitat trees are typically native species that provide food and/or shelter for native fauna and flora.
No net loss	<p>Projects will have achieved a no net loss where the expected loss from infrastructure development has been:</p> <ul style="list-style-type: none"> • Avoided to the extent reasonably practicable; and • Mitigation measures, including measures to reduce habitat fragmentation effects, have been applied to the extent reasonably practicable; and • Offsets have been provided through either credit purchase or BCF payment of the required number and type of biodiversity credits in accordance with the BAM or TfNSW guidelines; and/or • Conservation measures have been delivered in accordance with the requirements of this policy and guidelines.
Operational clearances	Means the area required to be maintained for the safe and efficient operation of the infrastructure and applies to rail activities only
Reasonable	<p>Selecting reasonable measures from those that are feasible involves judging whether the overall biodiversity benefits are worthwhile in the context of:</p> <ul style="list-style-type: none"> • recent and anticipated impacts of a similar nature in the locality • the cost of the measure, including the cost of the measure as a percentage of the total project cost and any ongoing maintenance and operational costs • the level of community interest and engagement with the proposed measure.

	<p>Where the cost of making payment to the BCF to meet TfNSW biodiversity offset requirements is considered excessive, conservation measures will be considered and provided to the extent or value considered appropriate.</p> <p>Where the cost of making payment to the TfNSW Conservation Fund to meet Tree and Hollow replacement requirements is considered excessive, changes must be made to project scope to reduce impacts.</p>
Reasonably likely to naturally regenerate	Means areas capable of natural regeneration as evidenced by the presence of a native understorey including juvenile native trees and shrubs as determined by an appropriately qualified person.
REF	Review of Environmental Factors. Prepared to meet Transport's statutory obligation to consider the impact of its activities on the environment to the fullest extent reasonably practicable for projects considered under Part 5, Division 5.1 of the EP&A Act .
Residue land	Residue land is Transport owned-land that is not required for current or future project requirements and therefore would be available for disposal.
TfNSW tree and hollow replacement exclusions	<p>Activities excluded from the TfNSW tree and hollow replacement requirements:</p> <ul style="list-style-type: none"> • Exempt development under the Infrastructure SEPP including emergency work. • Projects requiring development consent under Part 4 of the EP&A Act. • Works to remove a traffic hazard on or overhanging a public road. • Works within the disturbed zone (road) or essential to maintain required operational clearances (rail). • Works within areas that are reasonably likely to naturally regenerate. • Non-native trees without amenity value. • Trees that are being otherwise offset including projects that have triggered the Biodiversity Offset Scheme thresholds or the TfNSW biodiversity offset thresholds. • Any project approved or determined or where an REF has been exhibited prior to the commencement of this Policy.
Tree	Is as per Australian Standard 4970-2009: Long lived woody perennial plant greater than (or usually greater than) 3m in height with one or relatively few main stems or trunks (or as defined by the determining authority)
Tree and hollow replacement ratios	<p>Trees and hollows will be replaced using the following ratios:</p> <ul style="list-style-type: none"> • Very large tree (DBH greater than 100cm) – Plant a minimum 16 trees and provide three artificial hollows for every occupied hollow removed (assuming a 20% occupancy rate). • Large tree (DBH between 50cm and 100cm) - Plant minimum eight trees and provide three artificial hollows for every occupied hollow removed (assuming a 20% occupancy rate). • Medium tree (DBH greater than 20 cm, but less than 50cm) - Plant minimum four trees and provide three artificial hollows for every occupied hollow removed (assuming a 20% occupancy rate). • Small tree (DBH greater than 5cm, but less than 20cm) – Provide at least two trees <p>Artificial hollows should be provided in accordance with relevant guidelines.</p>

Appendix A: Tree and hollow removal field data sheet

Project:

Person completing form:

TfNSW contact officer:

Date:

Road ID:

Location details:

Comments:

Table A-1: Inventory of tree removal

Tree ID	GPS	Species	'Native' or 'Amenity' tree	DBH ¹ (cm)	Tree size category
Insert ID	Insert GPS ref	Insert tree species name	See definitions		E.g. "Very large tree (DBH ⁴ greater than 100cm)"

Table A-2: Inventory of hollow removal

Tree ID	GPS	Species	DBH (cm)	No. hollows per entrance size (cm)					Comments
				2-4	4-10	10-15	15-30	>30	
		Insert tree species name							Provide any other details to describe the hollow, including type (branch, trunk, etc), height off ground, aspect, evidence of use, etc.

¹ DBH = Diameter at Breast Height



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