



Biodiversity
Conservation
Trust

Biodiversity Conservation Trust Essential conservation fencing infrastructure

Guidelines, standards and cost benchmarks

November 2020

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Objective

The NSW Biodiversity Conservation Trust (BCT) partners with landholders to conserve and manage biodiversity on private land. Protecting and restoring the biodiversity values on your property can help protect native vegetation, connect habitat for wildlife and increase resilience to climate change, in turn adding value to agriculture. This is particularly important in landscapes where ecosystems are under significant pressure from a history of clearing, habitat fragmentation and unmanaged grazing.

Fencing is one tool you can use to manage the biodiversity values on your property. Fencing can be used to protect native vegetation by excluding or strategically managing livestock or overabundant feral herbivores and kangaroos.

You may already have an agreement on your property, or you may be looking to apply for one. If you need to repair an existing fence and/or install a new fence to protect the biodiversity values on your property, these guidelines provide the framework, including equivalent standards and cost benchmarks. It is important that you can demonstrate you have considered these benchmarks and standards in your application for financial support through BCT Programs.

Introduction

The BCT recognises that in certain circumstances you may require financial support to secure the conservation assets of your agreement area. These guidelines provide the framework, including equivalent standards and cost benchmarks, for you to seek financial support for essential conservation fencing.

Essential conservation fencing infrastructure (conservation fencing) may include new fencing and/or fencing repairs required to secure your conservation area. It is essential where there is a demonstrated threat of uncontrolled grazing or other unmanaged access to your agreement area from adjoining land, and significant negative impact on the biodiversity values of your agreement area. Conservation fencing may be required for the whole agreement area or only on part of your agreement area to protect sensitive and/or highly threatened conservation assets.

These guidelines are designed to be used for agreements within BCT conservation tenders, fixed price offers, co-investment partnerships, revolving fund, and conservation partners grants. The standards should also be applied to biodiversity stewardship sites.

The BCT will consider requests on their merits, including demonstrated need and risk to the conservation asset(s), and reserves the right to refuse requests or to limit the total funds provided per request.

These fencing guidelines should be read in conjunction with the following BCT resources:

- BCT Grazing guidelines and Grazing guidelines brochure
- BCT Managing overabundant kangaroo's guidelines and Managing overabundant kangaroo's brochure
- BCT Restoration and revegetation guidelines

All of these resources are available for you to read and download from the [BCT General Resources](#) page. If you have any questions please contact the BCT.

Principles

Fencing your agreement area can be a useful tool to achieve biodiversity conservation goals if guided by the following principles:

1. Use conservation fencing only where there is a clear need. Base decisions on the best available information and seek advice where appropriate.
 - a. understand the requirements and condition of the native vegetation and habitat features that comprise and/or support the conservation assets of your site;
 - b. identify threats to your site that are, or have potential to, cause degradation of these biodiversity values and ensure fencing is essential to help manage these threats.
2. Use conservation fencing only to:
 - a. strategically manage (or exclude) livestock from your agreement area dependant on your management goals;
 - b. exclude feral herbivores from your agreement area;
 - c. strategically manage overabundant kangaroos within your agreement area¹;
 - d. control access to artificial water points to help you manage total grazing pressure within your agreement area.
3. Carefully plan and design your fence to optimise conservation outcomes
 - a. identify clear objectives and consider the timing required to achieve your goals (from initial installation, maintenance and if/when you may need to remove it;
 - b. consider factors such as topography, substrate, vegetation density, climatic conditions and geographic location in the design of your fence;
 - c. ensure fence design is wildlife friendly to minimise impacts on native wildlife.
4. Ensure adequate site preparation, ongoing maintenance and monitoring.
5. In areas of low annual average rainfall (Western Land Division of NSW and areas <400mm per annum), use appropriate fencing to ensure ground cover is maintained in Healthy Condition² through the management of total grazing pressure.
6. The use of predator-proof fencing is guided by the NSW Saving Our Species Program (see Appendix A)

¹ See the [BCT Managing overabundant kangaroo's guidelines](#) and the [BCT Grazing guidelines](#) for further details.

² Thresholds for Healthy Condition are based on regional rainfall (annual averages) and the dominant species present. This threshold includes any grazing by feral and native herbivores and considers the prevailing climatic conditions.

Wildlife Friendly Fencing

Wildlife Friendly Fencing (WFF) is an overall approach to fence design that aims to minimise fence-related injuries or death to wildlife. Thousands of native animals from over 70 species are killed every year due to entanglement in fencing (LFW 2011). Fences impact wildlife both directly and indirectly. For example, flying and gliding animals have trouble avoiding barbed wire fences and can become entangled, resulting in death or serious injury. Additionally, netting and chain-link fences create a barrier for native fauna and can limit their ability to travel to water sources and feed locations, which may isolate populations of fauna and reduce genetic diversity (Jakes *et al.* 2018).

Some locations present greater vulnerability to wildlife, such as:

- highly fragmented habitats where animals must regularly travel through fenced areas to reach different parts of their habitat;
- regular flight paths for bats and birds, and movement paths for mammals;
- areas with high density populations of species vulnerable to entanglement such as gliders, owls, macropods and flying foxes;
- barbed wire near fruiting or flowering trees; and
- wetland areas where barbed wire may be exposed above the water level (van der Ree 1999).

The BCT will support you in identifying the types of fencing that pose risks to wildlife and the appropriate options to be implemented for private land conservation agreements.

Wildlife Friendly Fencing in BCT agreement areas

Existing fences will not be required to be retrofitted to meet WFF standards, unless specifically identified in a Management Plan. For Conservation Partners Program agreements, fencing may be upgraded gradually to meet WFF standards (i.e. as fences are replaced or repaired), or removed if considered redundant. Timeframes and standards for upgrading fences may also be specified under the Conservation Partners grant. WFF standards should be considered when applying for BCT funding through the Conservation Partners Program or Conservation Management Program.

Conservation fencing guidelines and equivalent standards

Planning and designing your fence

To be competitive in securing support from the BCT, you must demonstrate that your fence design and construction will enable you to effectively manage the threats identified to your conservation area whilst remaining sympathetic to local native wildlife. These threats will vary from site to site but generally this will require you to gain control over domestic livestock grazing and may also include unmanaged grazing by feral herbivores (especially unmanaged goats where they threaten the biodiversity values of the site).

You must demonstrate that your fence will enclose an area effectively to secure the conservation assets in accordance with your management plan. The fence design should be cost effective and optimise benefits for the biodiversity values of the site. Conservation fencing must meet the equivalent standards as set by the BCT (see **Table 1** for sites in Central and Eastern NSW or **Table 2** for sites in Western NSW).

Is boundary fencing eligible?

Boundary fencing may be considered 'essential conservation fencing infrastructure' where there is a demonstrated conservation need and the boundary of a conservation area is also the property boundary. Under the *Dividing Fences Act 1991* the general principle is adjoining owners are required to contribute equal proportions to the carrying out of fencing work where there is no sufficient dividing fence in place (that would result in the provision of a dividing fence that is of sufficient standard).

Prior to requesting a direct contribution from the BCT for conservation fencing of your site, it is your responsibility to have identified existing obligations with regards to boundary fencing, including under any grant or lease agreement or other legislation.

Where a funding request is agreed to for boundary fencing the BCT will contribute up to 50% of your proportion of the dividing fence construction or 50% of the cost benchmarks identified, whichever is the lower (equaling approximately a quarter of the total cost for fencing work).

It is your responsibility to ensure that you have reached an agreement with your neighbour regarding boundary fencing works. You will be required to have negotiated with your neighbours and reach agreed terms for fence construction as required under the *Dividing Fences Act 1991* prior to any request being agreed to by the BCT.

What type of fencing works are not eligible for 'essential conservation fencing' requests?

The following requests are not eligible for 'essential conservation fencing infrastructure' requests:

- Boundary fencing where the adjacent land is a National Park, as the National Parks and Wildlife Service (NPWS) offer funding for fencing on a cost share basis¹.
- Fencing where there is a minimal risk of grazing incursion into the conservation area and/or damage to the conservation asset(s) from adjacent land.

¹ See the National Parks and Wildlife Service boundary fencing policy available at: <https://www.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas/park-policies/boundary-fencing>

- Fencing infrastructure costs where such works were previously publicly funded. Upgrading of fencing infrastructure may be considered where there is a demonstrated need to secure the biodiversity values of the site and the proposal is supported by the BCT.
- Feral pig fencing will not be funded due to alternative methods of management.
- Feral predator proof fencing will not be funded due to high costs and alternative methods of management.

Choosing materials – equivalent standards

Selecting the right materials for your site is crucial for ensuring long-term structural integrity and maximising the biodiversity benefits of your agreement.

The BCT will take an outcome-based approach to requests for essential conservation fencing infrastructure based on the conservation management objectives and detail within the conservation management plan for the site.

You are ultimately responsible for the design and specification of fencing to secure the conservation assets of your site, so long as it is equivalent in performance to the minimum standards specified in Table 1 and Table 2 below. You may choose to construct a fence of greater stability or performance dependant on your site and requirements. However, the contribution from the BCT as stated and agreed will not change. If your fencing design / specification reduces the quality and/or performance of the finished fence and will not achieve the management objectives within the conservation management plan for the site, your request will not be agreed to by the BCT.

Conservation fencing - equivalent standards for Central & Eastern NSW

The BCT cost benchmarks for Central and Eastern Division of NSW have been developed for 'standard' and 'difficult' sites.

'Standard' fence sites do not have any particular constraints which would impact on the ability of the standard specification fence to be constructed and maintained to meet the objectives of the conservation management plan.

'Difficult' fence sites are difficult to access and / or more complex to construct due to terrain and other factors. Difficult site fencing has to be justified by the site meeting one or more of the following criteria: site is steep/undulating; contains shallow stony soils/rock outcrops; meandering riparian areas; crosses drainage/flood channels; or areas of high native fauna traffic.

Table 1: Conservation fencing equivalent standards for Central & Eastern NSW

Site type	Equivalent standard
All sites	<ul style="list-style-type: none"> Fencing for BCT conservation agreements must be wildlife friendly. The use of barbs is discouraged, unless there's a compelling reason. The BCT may consider limited use of barbed wire on a case by case basis where supported by clear justification All materials should meet Australian Standards and be as new Wire and gates should be galvanised Steel posts can be black steel or galvanised End assemblies / strainers and stays can be steel (heavy galvanised) or hardwood
Standard sites in Central and Eastern NSW	<p>Plain wire</p> <ul style="list-style-type: none"> 5 - 7 horizontal wires (no barb on top or bottom lines) Steel post spacing up to a maximum of 8m <p>Prefab wire mesh²:</p> <ul style="list-style-type: none"> 7 line wires, 900mm high, 300mm mesh (7:90:30). Line wires graded to no less than 100mm at base of fence (i.e 300mm x 120mm mesh). Steel post spacing up to a maximum of 8m Plain top and bottom support wire One or two plain top wires may be placed above mesh to raise height
Difficult sites in Central and Eastern NSW	<p>Plain wire</p> <ul style="list-style-type: none"> 5 - 7 horizontal wires (no barb on top or bottom lines) Steel post spacing up to a maximum of 5m <p>Prefab wire mesh²:</p> <ul style="list-style-type: none"> 7 line wires, 900mm high, 300mm mesh (7:90:30) Steel post spacing up to a maximum of 5m Plain top and bottom support wire One or two plain top wires may be placed above mesh to raise height

² Generally referred to as 'ringlock' or 'hinged joint' prefabricated, galvanised wire mesh

Conservation fencing - equivalent standards for Western NSW

The BCT cost benchmarks for Western NSW have been developed for 'standard' total grazing pressure (TGP) and 'waterpoint management' TGP sites. BCT equivalent standards have been developed to enable current best practice grazing management and ensure conservation fencing remains wildlife friendly.

A 'standard' TGP fence site will be appropriate where management of all grazing pressure from livestock as well as feral and native herbivores is required to secure the conservation asset(s) of the site. Generally, this will be in areas of low (<400mm) annual average rainfall. If you identify existing grazing pressure from unmanaged goats, you must outline a plan to remove them from your conservation area within the timeframe stated in your conservation agreement.

A TGP 'water point management' fence will be appropriate where managing access to artificial water points in the landscape is required to enable the natural regeneration of native vegetation. A TGP water point management fence is intended to be used in conjunction with standard TGP fencing to further assist landholders to manage total grazing pressure effectively to secure the conservation asset(s) of the site.

Table 2: conservation fencing equivalent standards for Western NSW

Site type	Equivalent standard
All sites	<ul style="list-style-type: none"> Fencing for BCT conservation agreements must be wildlife friendly. The use of barbs is discouraged, unless there's a compelling reason. The BCT may consider limited use of barbed wire on a case by case basis where supported by clear justification All materials should meet Australian Standards and be as new Wire and gates should be heavy galvanised Steel posts can be black steel or galvanised End assemblies / strainers and stays can be steel (heavy galvanised) or hardwood
Total grazing pressure (TGP) standard sites	<p>Total Grazing Pressure management fencing – standard TGP site</p> <ul style="list-style-type: none"> Prefab wire mesh³ (minimum 2.5mm), 8 line wires, 1150/1200mm high, 300mm mesh (8:115/120:30). Line wires graded to no less than 120mm at base of fence (i.e 300mm x 120mm mesh). Steel post spacing up to a maximum of 10m (5m for slopes/difficult sites; 8-10m for plains/standard) Plain support wires (minimum 2.5mm) - no wires installed above mesh due to welfare hazard for native wildlife Recommended final height 1200mm. Minimum 300mm length apron⁴
Total grazing pressure (TGP) waterpoint management site	<p>Total Grazing Pressure management fencing – TGP water point management site</p> <ul style="list-style-type: none"> Prefab wire mesh³ (minimum 2.5mm), 15 line wires, 1500mm high, 300mm mesh (15:150:30) Steel post spacing up to a maximum of 10m Plain support wires (minimum 2.5mm) - no wires installed above mesh due to welfare hazard for native wildlife Recommended final height 1500mm Minimum 300mm length apron⁴

³ Generally referred to as 'ringlock' or 'hinged joint' prefabricated, galvanised wire mesh.

⁴ Apron may be pre-attached to base of fence or sourced separately as attachable apron, e.g 5 line wires, 400mm length, 150mm mesh (5:40:15).

BCT cost benchmarks

The following cost benchmarks are the amount per metre the BCT will contribute to conservation fencing for successful applicants.

Where a fencing request is agreed, the BCT will make a contribution of either a) up to 50% of direct fencing costs or, b) up to the relevant BCT cost benchmark, whichever is the lower. There is no specified limit to the scale of individual requests, however requests of a BCT contribution of greater than \$50,000 for a property will be specifically reviewed.

Table 3: Cost benchmarks for BCT fixed price offers, co-investment partnerships and conservation partners grants.

Type	Cost benchmark
Central and Eastern NSW – standard site	\$6.00 / m
Central and Eastern NSW – difficult site	\$7.80 / m
Western NSW – standard TGP site	\$6.00 / m
Western NSW – TGP waterpoint management site	\$8.00 / m

BCT programs and conservation fencing

Fencing agreement areas

The BCT requires stock proof fencing for all agreement types where the surrounding land use is grazing or where unmanaged grazing may impact on the agreement now or in the future. The BCT will only allow the agreement area to remain unfenced if obvious topographic barriers exist that clearly limit access to stock.

For biodiversity stewardship agreements or conservation agreements established through the BCT Conservation Management Program where the risk of stock incursion or unmanaged grazing is low, agreements may remain unfenced only if contingency funding is set aside in the total fund deposit for future fencing, if required.

For conservation agreements established through the BCT Conservation Partners Program, where the risk of stock incursion or unmanaged grazing is low, agreements may remain unfenced with approval from the BCT.

Conservation Management Program

Fixed price offers

If you participate in the fixed price offer, you have the option to include direct costs for conservation fencing in your fixed price offer application. These costs will be in addition to the fixed price payment schedule for the agreement.

Where a fencing request is agreed the BCT will make a contribution of either a) up to 50% of direct fencing costs or, b) up to the relevant BCT cost benchmark, whichever is the lower. There is no specified limit to the scale of individual requests, however requests of a BCT contribution of greater than \$50,000 for a property will be specifically reviewed.

Refer to: [BCT cost benchmarks above](#).

More information about fixed price offers is available on the [BCT website](#).

Conservation tenders

If you participate in a conservation tender, you have the option to include the costs associated with installing, repairing and maintaining conservation fencing within your bid. The amount you bid is entirely up to you. You should consider the annual payments you wish to receive for undertaking the actions outlined in the agreed conservation management plan over the term of the proposed agreement.

It is up to you to determine the payments you require to conserve and manage your site in accordance with the agreed conservation management plan. This will include consideration of the following types of costs for essential conservation fencing: labour costs, including hired or your own, fencing material costs, and costs of equipment required.

By submitting a bid, you acknowledge that the conservation management plan (and associated management actions) is final and this is the basis upon which you will bid.

More information about conservation tenders is available on the [BCT website](#).

Co-investment partnerships

Landholders and co-investors who participate in a co-investment partnership have the option to include a contribution towards conservation fencing within the co-investment proposal.

You will be required to identify the contribution sought from the BCT at the expression of interest stage. The BCT will consider requests of either a) up to 50% of direct fencing costs or, b) up to the relevant BCT cost benchmark (whichever is the lower).

The proposal may include contribution to essential conservation fencing works that have been undertaken up to 24 months prior to the expression of interest. There is no specified limit to the scale of individual requests, however requests of a BCT contribution of greater than \$50,000 for a property will be specifically reviewed.

Refer to: [BCT cost benchmarks March 2020 on page 11 of this guide](#).

More information about co-investment partnerships is available on the [BCT website](#).

Revolving fund

The agreements placed on our revolving fund properties vary depending on location and biodiversity values. Some agreements have annual funding in perpetuity (at the BCTs fixed price), while others are unfunded.

If you are an existing or prospective new owner of a revolving fund property with an unfunded conservation agreement, you may be eligible for support to undertake conservation fencing through our conservation partners grants.

For more information contact the BCT.

Conservation Partners Program

Conservation partners grants

If you are applying for a conservation partners grant, you have the option to include direct costs for essential conservation fencing in your grant application.

You will need to discuss any conservation fencing infrastructure with BCT field staff. You will need to:

- confirm the location and calculate the length of fencing required (for new construction and / or repair) with their regional BCT staff contact.
- confirm if you intend to clear any native vegetation to facilitate the construction of the fence.

Where a fencing request is agreed the BCT will make a contribution of either a) up to 50% of direct fencing costs or, b) up to the relevant BCT cost benchmark (whichever is the lower). There is no specified limit to the scale of individual requests, subject to the level of funding available for your type of agreement.

Refer to: [BCT cost benchmarks March 2020 on page 11 of this guide](#).

More information about conservation partners grants is available on the [BCT website](#).

Biodiversity Offset Program

Biodiversity stewardship agreements

If you are applying for a biodiversity stewardship agreement (BSA), you will need to provide details of conservation fencing infrastructure in the BSA management plan with appropriate justification for fencing location, type and standards provided in the biodiversity stewardship site assessment report (BSSAR).

Detailed fencing costs are included in the total fund deposit and submitted as part of the BSA application. Costs must include establishment, maintenance and replacement costs. Note that the cost benchmarks in section 3 this guideline do not apply to BSAs as fencing costs must be fully funded by the landholder.

More information about biodiversity stewardship agreements is available on the [BCT website](#).

Ongoing maintenance and reporting

Maintenance

Conservation actions require ongoing management to succeed. Sites are likely to require follow-up activities and fence maintenance as an essential part of successful conservation management. If the fence is damaged or otherwise compromised, unmanaged access and grazing pressure may result in a decline in vegetation condition and threaten the biodiversity values of the site.

Any necessary ongoing maintenance and repairs to your conservation fence will be your responsibility and insurance coverage of fencing by you is recommended.

If you have a conservation agreement and the fencing securing your conservation area is impacted by a natural disaster (such as flooding or bushfire) the BCT can be a touch point for discussing with you the impact of the event on your property and, in particular, your conservation area. We have staff in regional locations that can assist with technical advice regarding the ecological impact of the event and restoration actions which may be needed for your conservation area.

If you have a conservation agreement under the Conservation Partners Program and the fencing securing your agreement area is impacted by a natural disaster (such as flooding or bushfire), you may be eligible to apply for a conservation partners grant or an adjustment to your existing grant⁵ to:

- repair damaged conservation fencing
- install new conservation fencing required to assist the recovery of your conservation area from the ecological impact of the fire/s.

The BCT will periodically update guidance for agreement holders with regards to the impacts of events such as bushfire, visit the [BCT website](#) for more information.

Reporting and record keeping

If you are successful in securing BCT funding towards your fence construction, your conservation agreement or grant agreement will identify your reporting requirements and any records you are required to keep.

For BSAs, annual reporting and record keeping requirements are outlined in the agreement.

⁵ The BCT will consider the following adjustments to assist landholders with agreements impacted by bushfires - allowing higher payments in initial years for essential conservation infrastructure such as fencing, and erosion control works; paying for works which have previously been implemented but need to be undertaken again because they have been impacted by the fires.

List of relevant literature

These guidelines rely on an extensive list of published material. This information has been used to identify, support and highlight the current understanding of best practice management in Australia. The NSW BCT does not necessarily endorse all opinions or ideas contained within these references.

Amesbury, S. 2007. Wildlife Friendly Fencing. *National Wildlife Rehabilitation Conference Proceedings*, Fremantle, Western Australia.

Booth, C. 2006. Barbed wire action plan. Queensland Conservation Council, Brisbane, 2, pp.1-17.

Department of Environment and Conservation. 2009. Fencing and gates to reduce kangaroo damage. *Fauna Notes*, no. 32, pp. 1-3.

Fisher A, Hunt L, James C, Landsberg J, Phelps D, Smyth A, Watson I. 2004. *Review of total grazing pressure management issues and priorities for biodiversity conservation in rangelands: A resource to aid NRM planning*. Desert Knowledge CRC Project No 3 (August 2004). Desert Knowledge CRC and Tropical Savannas CRC, Alice Springs.

Hayward, M.W. and Kerley, G.I., 2009. Fencing for conservation: restriction of evolutionary potential or a riposte to threatening processes?. *Biological Conservation*, 142 (1), pp.1-13.

Jakes, A.F., Jones, P.F., Paige, L.C., Seidler, R.G. and Huijser, M.P. 2018. A fence runs through it: a call for greater attention to the influence of fences on wildlife and ecosystems. *Biological conservation*, 227, pp.310-318.

Land for Wildlife. 2011. *Wildlife Friendly Fencing and Netting*. Land for Wildlife, Queensland. <http://www.lfwseq.org.au/wp-content/uploads/2017/02/Wildlife-Friendly-Fencing-and-Netting.pdf>

Long, K and Robley, A. 2004. *Cost Effective Feral Animal Exclusion Fencing for Areas of High Conservation Value in Australia*. National Heritage Trust, Department of the Environment and Heritage.

Maclean, J. J. 2006. Reducing the impact of barbed wire on wildlife. *The Australasian Bat Society Newsletter*.

Moseby, K.E., Lollback, G.W. and Lynch, C.E., 2018. Too much of a good thing; successful reintroduction leads to overpopulation in a threatened mammal. *Biological Conservation*, 219, pp.78-88.

Paige, C. and Stevensville, M.T. 2008. A landowner's guide to wildlife friendly fences. *Landowner/Wildlife Resource Program, Montana Fish, Wildlife and Parks, Helena, MT*.

Platt, S and Temby, I. 1999. Fencing Wildlife Habitat. *Land for Wildlife (Victoria)*. State of Victoria, Department of Natural Resources and Environment.

Scofield, R.P., Cullen, R. and Wang, M., 2011. Are predator-proof fences the answer to New Zealand's terrestrial faunal biodiversity crisis?. *New Zealand Journal of Ecology*, 35, pp.312-317.

van der Ree, R. 1999. Barbed wire fencing as a hazard for wildlife. *Victorian Naturalist*, 116(6), pp.210-217.

Appendix A: Predator-proof fencing in BCT agreement areas

What is predator proof fencing?

Predator-proof fencing, also referred to as cluster fencing, can be used to protect areas of habitat of vulnerable native animals from vertebrate pest species. Predator-proof fencing typically uses wire netting or prefabricated fencing material to erect a secure physical barrier. Electric wire may also be added to exclusion fences as a further deterrent method. Predator-proof fences can also include structures such as 'floppy tops' to prevent climbing predators accessing the site.

Predator-proof fencing has become a tool used to support the reintroduction of threatened species. In NSW, predator-proof fencing is, at times, used to protect reintroduced threatened native animals that have become regionally extinct by threatening processes such as predatory and competitive impacts from vertebrate pest species.

When predator-proof fencing is not appropriate

Predator-proof fencing is not always an appropriate management option. Predator-proof fencing is often expensive to construct and time-consuming to monitor and maintain (Long and Robley 2004). Predator-proof fencing can also negatively impact non-target native species and their movement through the landscape (Hayward and Kerley 2009). Retention of herbivores, such as kangaroos, within the fences can also lead to management issues such as over-grazing that may require culling or other active management.

The use of predator-proof fencing for species reintroduction projects can cause ecological population and behavioural issues that need to be considered and effectively managed (Schofield et al. 2011). For example, without appropriate relocation plans, reintroduction projects can trigger a collapse in gene flow between populations, restricting the evolutionary potential of species (Hayward and Kerley 2009). Reintroduction projects may also lead to the overpopulation of target species, creating unintended impacts on in-situ native fauna and flora (Moseby et al. 2018).

BCT guidance on the use of predator-proof fencing in agreement areas

The following principles on predator-proof fencing apply to all BCT agreements.

Predator-proof fencing that is for the purpose of protecting a target native species may be considered in limited situations. The BCT will consider predator-proof fencing proposals that satisfy the following criteria:

- The proposal is linked to an existing NSW [Saving Our Species \(SOS\) program](#), such as the [Reintroduction of Locally Extinct Mammals \(RoLEM\)](#), and endorsed by the relevant SOS Threatened Species Officer. BCT will not support predator-proof fencing that is independent of a NSW government program.
- An analysis of alternative options to manage predators has been undertaken. The review must consider the cost-benefit of alternative management options relative to predator-proof fencing (Long and Robley 2004; Schofield et al. 2014).
- The proposal is supported by scientific evidence that examines the site and landscape-based impacts to target and non-target species. This may include an environmental assessment such

as a Review of Environmental Factors (REF) for direct and indirect impacts. In the case of existing BCT BSA agreements, consideration should be given to the conservation of biodiversity associated with the specific ecosystem and species credits attributed to the site.

- The proposal has obtained the relevant approvals, licences and permits under NSW or Commonwealth legislation. This may include, but is not limited to:
 - A scientific licence for translocations or reintroductions of animals, as issued by the NSW National Parks and Wildlife Service. Additional legislative requirements for translocations are detailed in the Department of Planning, Industry and Environment Translocation operational policy,
 - NSW Animal Care and Ethics approval under the *Animal Research Act 1985*, and
 - Planning and clearing consents under the *Local Land Services Act (2013)* and *Environmental Planning and Assessment Act (1979)*.
- The proposal includes long term plans for:
 - Ecological monitoring of the impacts of exclusion fencing and reintroduced species on extant species of the site,
 - Managing behavioural and genetic diversity issues of target species,
 - The future relocation of target species, including timeframes for relocation, potential relocation areas and associated risk management strategies, and
 - Identifying impacts on non-target species and resourcing their remediation.