



Australian Government

REEF TRUST



Reef Trust Offsets Calculator

How to Use the Offsets Calculator

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Background

The Reef Trust offsets calculator is designed to be used by *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) proponents and referral assessment officers.

The Reef Trust offsets calculator will be used in circumstances where a referred action will have a residual significant impact on a biodiversity-related matter of national environmental significance (MNES) relevant to the Great Barrier Reef, and the proponent elects to use the Reef Trust for strategic delivery of environmental offset activities on their behalf.

The Reef Trust offsets calculator has been designed to be consistent with the EPBC Act Environmental Offsets Policy 2012.

The calculator does not cover the full suite of biodiversity-related MNES which apply to the Great Barrier Reef. It is limited to a small number of surrogates representing key biodiversity values and attributes and key environmental processes. These key values and attributes, and environmental processes, were identified in the Great Barrier Reef Region Strategic Assessment prepared by the Great Barrier Reef Marine Park Authority in 2014 (refer below for more information).

Until more data becomes available, the Reef Trust offsets calculator can only be used to offset impacts on the following surrogates: water quality (sediment and nitrogen), mangrove forest habitat and species, seagrass meadow habitat and species, shallow reef habitat and species, and saltmarsh habitat and species.

In circumstances where the Reef Trust offsets calculator cannot be used, Reef Trust can still deliver offsets for impacts on biodiversity-related MNES. The quantum of these offsets would be agreed with the regulatory area of the Department as part of the approval process.

The Reef Trust Offsets Calculator is not suitable for use for marine environments other than the Great Barrier Reef

Relationship of surrogates to matters of national environmental significance

The Great Barrier Reef Region Strategic Assessment Report was endorsed by the then Minister for the Environment in accordance with section 146 of the EPBC Act on 11 August 2014. Chapter 4 of the Strategic Assessment identified 62 key values and attributes of the MNES relevant to the Great Barrier Reef, which were grouped into four broad categories – biodiversity, geomorphological features, Indigenous and historic heritage and community benefits (comprising cultural, social and economic benefits). The strategic assessment also described key environmental processes relevant to each MNES.

The Reef Trust offsets calculator identifies twenty-two surrogates as proxies for the biodiversity-related key values and attributes and key environmental processes of the Reef, refer Tables 1 and 2 below.

The tables below are reproduced from the Strategic Assessment and list the biodiversity values and attributes, and relevant environmental processes, which are currently (or are intended to be) covered by the Reef Trust offsets calculator.

	Water quality impacts (calculator is able to be used)
	Habitats (calculator is able to be used)
	Habitats and Species (calculator is <u>not</u> yet able to be used)

Table 1: Relevant biodiversity values and attributes of MNES, from strategic assessment

Key values and attributes	World heritage properties					Great Barrier Reef Marine Park	National heritage places	Commonwealth marine areas	Listed migratory and threatened species									Wetlands of international importance
	Criterion i (now viii)	Criterion ii (now ix)	Criterion iii (now vii)	Criterion iv (now x)	Integrity				Marine turtles	Estuarine crocodiles	Whales	Dolphins	Dugongs	Sharks and rays	Seabirds	Shorebirds		
Biodiversity — Great Barrier Reef habitats																		
Islands		●	●	●	●	●	●	●	●	●					●	●	●	
Beaches and coastlines (Intertidal)			●		●	●	●	●	●	●					●	●	●	
Mangrove forests			●	●	●	●	●	●	●	●				●	●	●	●	
Seagrass meadows				●	●	●	●	●	●			●	●	●			●	
Coral reefs (<30m)		●	●	●	●	●	●	●	●					●			●	
Deeper reefs (>30m)		●	●	●	●	●	●	●	●					●				
Lagoon floor				●	●	●	●	●				●	●	●				
Shoals				●	●	●	●	●				●		●	●			
Halimeda banks		●			●	●	●	●	●									
Biodiversity — terrestrial habitats that support the Great Barrier Reef																		
Salt-marshes						●		●		●					●	●	●	
Biodiversity — species																		
Bony fish		●	●	●	●	●	●	●			●	●		●	●	●	●	
Sharks and rays				●	●	●	●	●						●				
Sea snakes				●	●	●	●	●										
Marine turtles			●	●	●	●	●	●	●								●	
Estuarine crocodiles				●	●	●	●	●		●								
Seabirds			●	●	●	●	●	●							●			

Key values and attributes	World heritage properties					Listed migratory and threatened species											
	Criterion i (now viii)	Criterion ii (now ix)	Criterion iii (now vii)	Criterion iv (now x)	Integrity	Great Barrier Reef Marine Park	National heritage places	Commonwealth marine areas	Marine turtles	Estuarine crocodiles	Whales	Dolphins	Dugongs	Sharks and rays	Seabirds	Shorebirds	Wetlands of international importance
Shorebirds				●	●	●	●									●	●
Whales			●	●	●	●	●	●			●						
Dolphins				●	●	●	●	●				●					
Dugongs				●	●	●	●	●					●				●

Table 2: Relevant environmental processes, from strategic assessment

Key environmental processes	World heritage properties					Listed migratory and threatened species											
	Criterion i (now viii)	Criterion ii (now ix)	Criterion iii (now vii)	Criterion iv (now x)	Integrity	Great Barrier Reef Marine Park	National heritage places	Commonwealth marine areas	Marine turtles	Estuarine crocodiles	Whales	Dolphins	Dugongs	Sharks and rays	Seabirds	Shorebirds	Wetlands of international importance
Sedimentation	●	●			●	●	●	●	●				●			●	
Nutrient cycling [Nitrogen]		●			●	●	●	●									●

Implications for the EPBC Act assessment process

Normal assessment and approval processes under the EPBC Act will apply.

The assessment will identify, and will need to quantify, the residual significant impact on the relevant environmental processes, biodiversity values and attributes of the MNES as identified in the strategic assessment and summarised in tables 1 and 2 above.

EPBC Act proponents wishing to have the option of using the Reef Trust (in the event that an offset is required) will need to have regard to the surrogates covered by the calculator during the assessment process. These surrogates currently include sediment, dissolved inorganic nitrogen (DIN), saltmarsh habitat, mangrove habitat, seagrass habitat and shallow reefs.

There may be residual significant impacts on matters of national environmental significance which need to be offset and for which the Reef Trust offsets calculator cannot be used.

Reef Trust can deliver biodiversity-related offsets for surrogates not yet covered by the calculator.

Tiered approach to calculation

The Reef Trust Offsets Plan accompanying the Reef Trust offsets calculator provides information about the calculator's tiered approach, which guides the user through three levels of surrogates in a process that continues until all impacts requiring an offset are accounted for. The tiers are organised in such a way that there will be no duplication of offsets. Key environmental processes are considered first, and if all impacts are accounted for in this first step, there is no need to go to subsequent tiers. For further information, refer the Reef Trust Offsets Plan

TIER 1 – RELEVANT ENVIRONMENTAL PROCESSES

If the assessment identifies residual significant impacts to MNES due to reduced water quality from:

- suspended fine sediment; and/or
- increased nutrient cycling (dissolved inorganic nitrogen),

the monetary amount required to offset the impact through the Reef Trust can be calculated using the Reef Trust offset calculator. The amount of the residual significant impact will need to be quantified in tonnes for fine sediment and kilograms for nitrogen.

Proponents should agree with an assessment officer an appropriate method for calculating the amount which comprises a residual significant impact.

TIER 2 – RELEVANT BIODIVERSITY VALUES: HABITATS

If the assessment identifies residual significant impacts to MNES not captured through Tier 1, including, but not limited to:

- direct removal of seagrass habitat;
- direct removal of mangrove habitat;
- direct removal of saltmarsh habitat; and/or
- direct removal of shallow reef habitat,

the monetary amount required to offset the impact through the Reef Trust can be calculated using the Reef Trust offset calculator. The extent of habitat loss or degradation comprising the residual significant impact will need to be quantified in hectares.

Using the Reef Trust Offsets Calculator

Surrogate

Select the surrogate from a drop-down list. Surrogates for which the calculator is able to be used are currently limited to (Tier 1) sediment and nitrogen (DIN), and (Tier 2) seagrass habitat, mangrove habitat, saltmarsh habitat and shallow reefs.

NRM Region

Select the Natural Resource Management (NRM) Region relevant to where the impact site is located (either within or offshore from). These are based on the area covered by an Australian Government-recognised NRM organisation relevant to the Great Barrier Reef, refer <http://www.nrm.gov.au/regional/regional-nrm-organisations>. The relevant NRM regions are Burdekin, Burnett-Mary, Cape York, Fitzroy, Mackay Whitsundays and Wet Tropics.

Risk-Adjusted Cost per unit \$AUD

On completion of the Surrogate and NRM Region fields, the risk adjusted cost per unit will appear automatically.

The risk-adjusted cost has been developed having regard to the cost of delivering offset activities in different NRM regions, subject to a range of multipliers which are explained in the calculator's supporting Reef Trust Offsets Plan.

The Risk-Adjusted Cost tab of the calculator shows how this figure has been derived, including the base cost per unit and the nature of the multipliers.

No. of Units to be Offset

Insert the number of units comprising the residual significant impact, derived from the assessment process, for example tonnes of sediment, kilograms of nitrogen (DIN) or hectares of habitat.

Note that the unit of measurement derived from the assessment process must align with or be converted to the unit of measure used in the calculator.

Surrogate	Unit
Water quality – sediment	tonnes
Water quality – Nitrogen (DIN)	kilograms
Habitat – Seagrass	hectares
Habitat – Mangroves	hectares
Habitat – Saltmarsh	hectares
Habitat – Shallow Reefs	hectares

Administrative components

This fee will automatically be added to the total. There are two components to the fee, which has been set by the Department:

1. A 10% handling fee. This fee is not retained by the Department but provides for the engagement of expertise to design and deliver offset projects.
2. A 5% fee to ensure the monitoring and reporting obligations of on-ground delivery partners are covered.

Offset Liability

This figure will be generated automatically. Multiple lines representing impacts on more than one surrogate will also be totalled automatically.

Review and updating

Review and updating of the Reef Trust offsets calculator will align with the publication of the Great Barrier Reef Outlook Report. The Great Barrier Reef Outlook Report, produced by the Great Barrier Reef Marine Park Authority on a 5-yearly basis, identifies the status and trend of key values and threats to the Reef. This review will enable new science and updated value trends and status to be considered and incorporated where relevant. The next Outlook Report is due for release in 2019.

On a project-specific level, the insights gained through the design and implementation of each offset project, as well as lessons learned through other investments by the Reef Trust, will enable the team to continuously refine its approach to delivering offset projects.

Updates to the Reef Trust offsets calculator will apply to any EPBC Act referral for which the assessment documentation has not yet been placed on public exhibition.